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The Impact of Servitisation on Businesses

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Commoditisation forces companies to differentiate and innovate by shifting from product-oriented business to selling product and service bundles and co-creating value with customers. This phenomenon is widely known as servitisation. Upon examining how companies in manufacturing and process industries develop their service business, it is discovered in both cases that establishing a separate service organisation is a key element when considering the success of servitisation. The challenge with this is the arising need for a global service infrastructure and capabilities to respond to local requirements. Apart from the need for service infrastructure, one can expect change resistance, questioning of change legitimacy and role conflicts from people working in the customer interface. Furthermore, even though the mindset and capabilities were there, customers might not share the same degree of servitisation which requires external alignment.

Servitisation also begs the question regarding how one can monetise services which is where the concepts of value-based pricing and value-based selling become handy. Instead of basing pricing on costs or competitor prices, value-based pricing focuses on the value customers get when using the service. Furthermore, value-based selling aims to help customers to excel in their own business and to reach the goals they have originally set for themselves. Customers' perception of value is, however, often subjective and heavily dependent on context, making value quantification and eventually communication difficult. Hence, companies have to find the right customers, have customer-centric sales personnel, create credible referencing for potential business offerings, and lastly work jointly and iteratively with customers to create value.

Keywords	Commoditisation, installed based, product-service transition, servitisation, value-based selling, value-based pricing.

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1 Introduction

In today's modern and globalised business world, competition is getting fiercer and fiercer than ever before. Consequently, businesses are finding it increasingly difficult to differentiate their product offerings from those of their competitors. Not to mention, fierce global competition is putting increasing pressure on margins. Besides, life cycles are becoming shorter and shorter due to this intensely competitive and rapidly changing business environment. More specifically, product-oriented companies in every industry are faced with commoditisation which threatens their margins and makes the existing business model obsolete. Therefore, it begs the question of how companies can cope and adapt with a situation where differentiation strategies are becoming exceedingly difficult to be executed (Matthyssens and Vandenbempt, 2007).

For that reason, there is a growing number of companies that are developing new business models that help to add a service dimension to their current product offering. This very process is known widely as servitisation. The term "servitisation", first coined by Vandermerwe and Rada (1988), refers to the transition of product-based companies from purely providing products to adding services to their product-oriented offering. Moreover, multiple studies have shown that services result in increased revenues and simultaneously have higher profit margins as opposed to traditional product sales (Neely, 2008; Oliva and Kallenberg, 2003; Rabetino et al, 2016). Interestingly, much of past literature demonstrates that a shift towards servitisation serves as an effective method to create additional value as well as added capabilities for traditional manufacturers (Hewitt, 2002). It is mainly because these incorporated product-service offerings are unique, long-term, and defend companies better from competition based in cost-effective economies.

Upon making the product-service transition and providing added values to one's products, businesses are still struggling how to come up with ways to price the services they initially created and offered to their customer. Moreover, if they could justify their prices, how would they introduce this new method of pricing to their sales force and the rest of the organisation? Companies should indeed acknowledge that service delivery is far more sophisticated as opposed to manufacturing products and therefore calls for different methods than products,

1.1 Research objectives and questions

This thesis is a literature review whereby the main objective is to understand what kind of impact servitisation has on businesses. More specifically, this thesis is written based on the studies of two exemplary firm cases: how manufacturing and process industries have transitioned from product-oriented businesses to service businesses and what kinds of challenges these transitions have posed. Furthermore, this thesis will analyse what are the strategic success factors and practical means that management should take into careful consideration if one wishes to implement the product-service transition successfully. Therefore, the research questions are:

- What kind of impact does servitisation have on businesses?

With a view to guide this literature review-based thesis, a series of sub-questions have been posed. They are as follows:

- What has been the effect of servitisation in the manufacturing and process industries?
- What practical tools are there to enable servitisation?
- What are the managerial implications when it comes to implementing servitisation and using these tools?

1.2 Methodology and research scope

Since this thesis is a literature review, it is based only on secondary research. To keep the scope of the research specified, the focus of the literature is on three broad areas: servitisation, value-based pricing and value-based selling.

The structure of this thesis is the following: the second chapter that follows this introduction explores and reviews a step-by-step product-service transition from the two industries – manufacturing and process industries. Furthermore, it introduces general challenges that are closely linked to the phenomenon of servitisation. The third chapter assesses the practical tools such as value-based pricing and value-based selling. In addition, it demonstrates the managerial implications considering the use of these tools. Finally, the fourth chapter presents a synthesis and draws conclusions from what has been presented. It discusses the commonalities and differences between with the phenomena and the challenges associated with them

2 Product-service transformation

Commoditisation undermines companies' abilities to differentiate in various industries, resulting in a decline in earnings over a period of time. It is widely recommended among existing literature that in order to become competitive again in a commoditised market, the shift from product-based offerings to service-based ones is what companies urgently need to get a hang of (Matthyssen and Vandenbempt, 2007). Eggert et al (2018) hold the same thought, further expressing that companies might eventually suffer from a loss in competitiveness if they failed to emphasise the integration of resources as well as value-in-use.

More specifically, Eggert et al (2018) refer to value-in-use as a value proposition which involves value that is co-created with a wide variety of different actors. Common attributes of value-in-use are 1) the shared knowledge between actors or business partners, 2) reciprocity by nature, 3) takes place in the communication process and 4) often seen as proposal of value. Value-in-use is also described as a result or target that customers can obtain via the use of services (Woodruff and Flint, 2007). Similarly, Vargo and Lusch (2004, 2008) consider 'services' as a process where providers utilise their resources to create value for the customers. In that regard, resource integration is a common approach whereby both customers and providers integrate their resources to co-create value. In support of this viewpoint, several sources have identified significant value creation potential in customer processes and joint operations with their suppliers (Moller, 2006; Vargo & Lusch, 2004, 2008a).

Commoditisation is referred to as a process in which there is little to nothing to distinguish from the same offerings between goods or services delivered by a rival company. In general terms, commoditised goods within certain categories are so similar with each other to the extent that they are only differentiated by their individual price tags (Davenport, 2005). Take Apple Inc as an example. In the year of 2007, touch-screen interface and multitasking capabilities allow phone users to surf the web while engaging on a conversation on the phone. These elements were indeed distinguishing features and they enabled Apple to charge premium prices for its products. However, rival companies such as Samsung or Nokia started to copy Apple's cutting and innovative mobile features, and the once-differentiating features became increasingly popular and therefore commoditised (Investopedia, 2020).

Robinson, Clarke-ill & Clarkson (2002) regard “servitisation” as an optimal solution to fight off commoditisation. In research papers with an emphasis on business markets, the rationale of making the transition from products to services by introducing added-value offering to reclaim differentiation competitiveness is often presented and encouraged (Ulaga and Eggert, 2006). According to Baines et al (2007), it is becoming increasingly challenging to manage organisational performance in sectors including equipment provision, as intensified competition has forced firms to add value by means of service provision. As stated by Vandermerwe and Rada (1988), this provision is also known as the servitisation of manufacturing.

More specifically, Vandermerwe and Rada (1988) describe how businesses identified themselves either to be goods producers such as product manufactures or service providers such as insurance providers. As a step in the transition, they then moved onto offering goods with other closely linked services such as maintenance, financial services or other support. Finally, businesses developed into a position where they started providing ‘bundle offers’, which consisted of customer-based combinations of goods and services, self-services, and many more.

In their papers, Vandermerwe and Rada (1988) are believed to adopt the thinking that services are executed, not generated and are fundamentally intangible (Baines et al, 2009). Nevertheless, research regarding the concept of servitisation nowadays has been covered in accordance with a wide variety of topics relating to the integration of products and services within an organisation. Furthermore, if in the past manufacturing companies had the tendency to think services purely as an add-on to products and offering services are only necessary in support of marketing strategy (Gebauer and Friedli, 2005), service provisions have now been transformed into an intentional and distinct strategy with services being the critical differentiating element in the integration of products and services.

More importantly, a strong sense of customer centricity is the critical requirement for servitisation strategies (Miller et al, 2002). Upon conducting a literature view on various research papers on the phenomenon of servitisation from the 1950s to the present time, Baines et al (2009) has concluded the definition of servitisation as following: “servitisation is the innovation of an organisation capabilities and processes to better create mutual value through a shift from selling products to selling integrated products and services”

2.1 Capital equipment manufacturing

In an effort to enable and facilitate the transition from pure product-based companies to service-based companies in manufacturing industries, Oliva and Kallenberg (2003) put forwards a roadmap regarding which organisational changes would be suitable for each step of such transition and how one can overcome challenges presented in each step.

2.1.1 Providing services for the installed base

A product's installed base (IB) refers to the number of products that customers are currently using. To ensure the long life of products such as capital equipment or long-lasting consumer goods, services such as maintenance or regular upgrades are needed (Oliva and Kallenberg, 2003). Hence, these products often have a cost of ownership which far exceed their initial purchase price, including the prices for spare parts, consumables, maintenance, and many more. Moreover, cost of ownership is defined as the purchase price of an asset added with the costs of operation (Ellkam, 1995). Oliva and Kallenberg (2003) firmly believe that installed base itself already provides a significant market which calls for well-defined service strategies from product manufacturers.

2.1.2 General advantages and disadvantages of IB services

First and foremost, as manufactures already overlook new product sales, they are fully aware when new equipment joins the installed base. This leads to a possibility of lower customer acquisition costs. Secondly, any service provider who wishes to compete in the IB market needs detailed product knowledge and an understanding of the involved technologies. For that reason, the product manufacturers get a head-start over third-party service providers as they already retain this knowledge and understanding, which in turn results in a lower level of capital requirements (Oliva and Kallenberg, 2003)

With regards to challenges, any manufacturer wanting to make an entrance to the installed base market might eventually encounter the difficulty of managing two closely-connected markets. On the one hand, improving service quality could extend the product's life cycle while cannibalising new product sales in the future. On the other hand, improving the product itself would decrease service revenues in the future (Oliva and Kallenberg, 2003).

2.1.3 Specific stages in product-service-transition

Oliva and Kallenberg (2003) suggest that the shift from products to services takes places in phases and they also provide a process model for each phase as shown in figure 1.

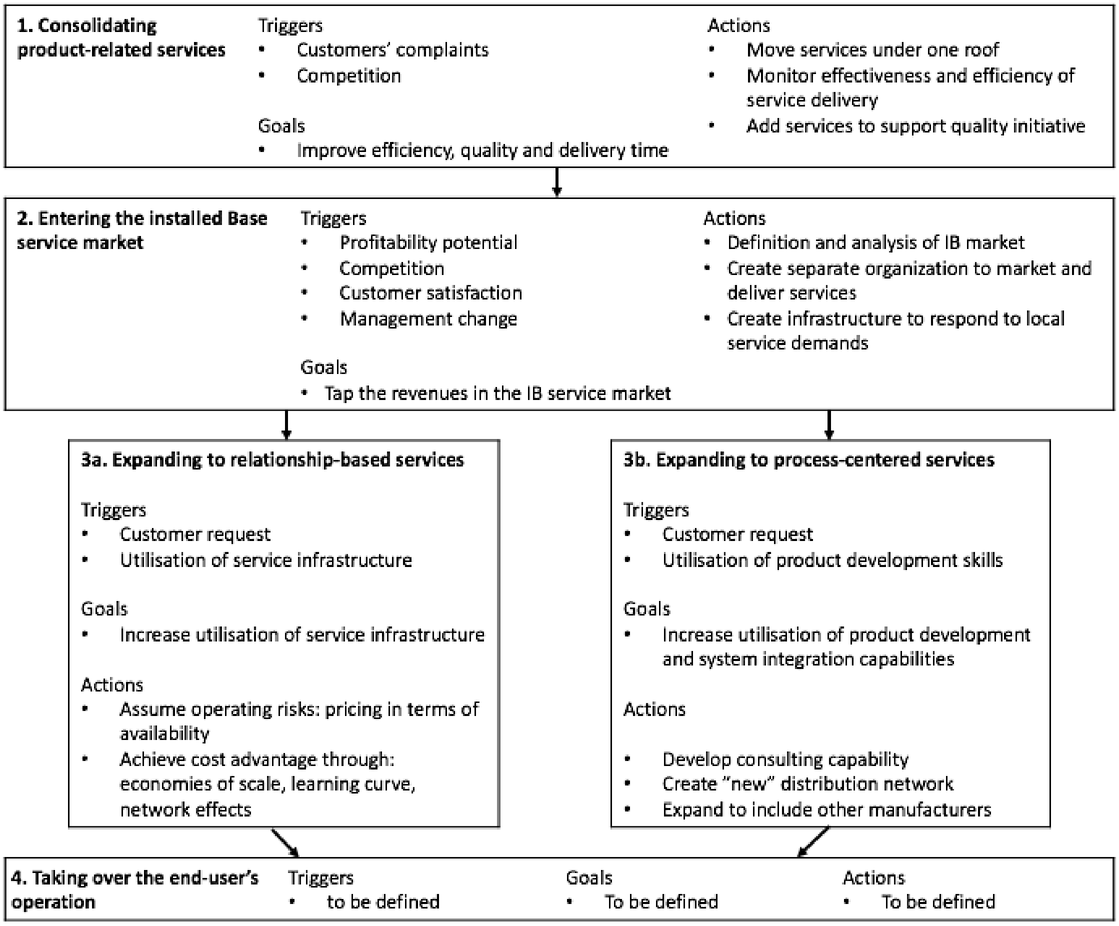

Figure 1. Product-service-transition phases (from Oliva and Kallenberg, 2003)

2.1.3.1 Step 1: Consolidating the product-related service offering

Product-related services are commonly available as manufacturers sell services to support their product sales. However, these services are often produced in different departments or units, making them disconnected and disperse. Furthermore, they are considered merely as necessary add-ons for product sales. Therefore, based on their empirical research, Oliva and Kallenberg (2003) propose that companies should set up a separate organisation unit consolidating the company's existing service offering.

There are multiple factors that give rise to the consolidation of service offering, including a strong drive to enhance the service efficiency, quality and delivery time. In addition, it also boosts the development of supplementary services to support the initial offering. In many cases, the consolidation also results in an establishment of monitoring system making service delivery and productivity more transparent to managers. Furthermore, managers can obtain a clearer picture regarding the direction that their service offering is heading forward, along with the success or failure of the implemented changes (Oliva and Kallenberg, 2003).

2.1.3.2 Step 2: Making an entry to the IB service market

This stage is characterised by the firm identifying a profit opportunity within the service sphere, as well as the establishment of the structures and processes to exploit. Suggestions for profit opportunities could come via the monitoring system, which was set up either in step 1 or after being inspired by a market rival receiving considerable service margins (Oliva and Kallenberg, 2003).

Nevertheless, Oliva and Kallenberg (2003) point out two main difficulties in implementing the shift to IB services. Firstly, transforming from a product-oriented company to a service-oriented one poses a cultural change. It is understandably challenging to persuade employees to get excited about repairing the very products that they tried rather hard to create and design from the very beginning. Furthermore, it is a widespread notion that manufacturers firms consider services merely as add-ons. Also, provided services, such as installation and commission are often given away free-of-charge in order for the sales process to run smoothly. Most importantly, this cultural change forces the manufacturers to learn how services can be valued, sold, delivered and invoiced.

In addition, Oliva and Kallenberg (2003) discover that forming a distinct organisation unit to manage the service portfolio is a key enabler to succeed in this stage. This separate business unit would have a profit-and-loss responsibility. Furthermore, the newly established business unit should also have devoted sales force that is different from the product-oriented sales people. This would include new service specialists, whose jobs are to supervise the business operations, and information system officers who would help to achieve accounting transparency.

As stated by Oliva and Kallenberg (2003), the second major setback in step 2 is the arising need for a “global service infrastructure” that possesses the capacity to respond to the various local needs of the IB. One reason for this is that it is rather difficult for a service organisation in the parent company to know the specific needs of local sales taking place in a different country. Moreover, developing such infrastructure displays certain hardships.

First and foremost, investing to build an infrastructure of such capacity likely reduces financial multiples that investors follow. It is also more than likely to take time for such infrastructure to generate profits. Secondly, in order to ensure that the newly built infrastructure runs smoothly, two capabilities have to be established: the facility or channel to ensure that knowledge is being distributed across the network and the possibility to supervise large organisation of service personnel. The third difficulty is how to strike a balance between standardising services across different markets to maximise costs and customising services to suit individual needs when it comes to sales strategies for local sales units (Oliva and Kallenberg, 2003)

Furthermore, the focus of this stage is to construct a well-functioning service organisation and also to strengthen necessary key performance indicators (KPI) to evaluate customer satisfaction, employee satisfaction and levels of business success. Companies often take advantage of this stage to further improve the organisation as well as expanding the business in order to enhance credibility inside the organisation.

2.1.3.3 Step 3: Expanding the IB service offering

To expand the service offering in step 3, there are two conspicuous transformations taking place (Oliva and Kallenberg, 2003). Firstly, the focus of customer interactions changes from transactions to relationships. Secondly, the focus of the value proposition for the end-users shifts from product efficacy, meaning the product’s ability to produce desired or intended results, to the product’s efficiency in the end-user’s usage.

More specifically, in order for the first transformation to happen, there must be a change in the approach in which services are priced: from an added price for labour and parts when a service is offered to a fixed price covering all services over a fixed period of time. Furthermore, instead of basing the service pricing on the costs of equipment monitoring, scheduled maintenance or emergency repairs, it can be based on something as tangible as availability for the end-user. In the end, relationship-based services are rooted in maintenance contracts which are priced based on operational availability and response time in the event of a breakdown (Oliva and Kallenberg, 2003).

Pricing equipment availability relies on the service provider's ability to make accurate assumptions regarding the equipment's operating risks. However, most service organisations do not possess sufficient historical data to predict successfully the success or failure rates of certain equipment. Therefore, it is suggested that service organisations could take on unprofitable maintenance projects in order to collect the necessary data to enable such predictability skill sets to be developed. This is exactly where manufacturers have an advantage other maintenance businesses (Oliva and Kallenberg, 2003).

More specifically, manufacturers are in a better position to develop and offer maintenance services, due to their accumulative experience in supporting and maintaining their own installed base as well as leveraging their product management and systems integration expertise. This in turn results in the fact that end-users are likely to enjoy a better performance from manufacturers whom they originally purchased equipment from, rather than other service providers. Nevertheless, this phase also calls for extended marketing resources and time, as the business must develop an on-going relationship with the end-users (Oliva and Kallenberg, 2003).

This take us to the second transition, which is to change the focal point of the value proposition for end-users from product efficacy to the product's efficiency and effectiveness. As this transition happens, the product is solely considered as part of the offering, instead of the centre of the value proposition. Instead of providing services only for installation and commissioning of a new product, manufacturers should develop services which help to improve the utilisation and effectivity of the installed base over its entire life cycle. In other words, the manufacturer should become what Oliva and Kallenberg (2003) describe as "solution provider".

This action is likely to bring about the establishment of process-oriented services, which, in and of itself, presents another two major challenges. Firstly, the service network requires tailored human resources and management capabilities. Secondly, as services need new distribution channels new contact people in end-users' organisations, extended coordination and marketing efforts are needed (Oliva and Kallenberg, 2003).

2.1.3.4 Step 4: Taking over the end-user's operations

Assuming operating risks and taking entire responsibility of the end-user's process are the two dimensions one should attempt to enhance with the hope of delivering "pure service organisation". However, Oliva and Kallenberg (2003) warn that undertaking the entire end-user processes is still unknown for the majority of manufacturers, despite their industries. Hence, this undertaking should be carried out only when the service organisation is in place and the manufacturer has a strong presence in the maintenance and professional service market.

2.2 A case in process industry

Past literature has consistently agreed that manufacturers need to ascend in the value chain by integrating services into their core offering (Oliva and Kallenberg, 2003; Neu and Brown, 2005; Penttinen and Palmer, 2007; Neely, 2008). By means of servitisation, manufacturing firms focus on locking out their competitors, increasing the number of customers as well as enhancing the level of differentiation (Vandermerwe and Rada, 1988). Furthermore, empirical studies about servitisation tend to be about suppliers of extensive sophisticated networks. They usually include train manufacturing, automation, power generation or water treatment equipment (Gebauer et al, 2012). Nevertheless, there has been little to no research available on how component suppliers, whose components are only part of more sophisticated products used in manufacturing industry, develop their service business.

With a view to filling the research gap, Kanninen et al (2017) firstly, explore capabilities needed for process industry companies regarding servitisation and, secondly, connect those capabilities with the must-be-executed steps so that servitisation can be achieved. Another important factor to note that it is dynamic capabilities, not operational capabilities, that Kanninen et al (2017) wish to touch upon.

Performing day-to-day business calls for operational capabilities, which in the case of process businesses, are usually known as product-related capabilities. However, dynamic capabilities are required to transform the existing business as well as embracing new procedures and operations (Helfat and Winter, 2011). Table 1 demonstrates the needed capabilities and the involved steps in order to obtain servitisation.

Table 1. Needed capabilities from Kanninen et al (2017)

Step	Needed capabilities
Pre-step: Setting the scene and understand the service business	1. Service-oriented organisational culture and mind-set 2. Ability to understand customers' business and processes
Step 1: Identify the current services and customer needs	3. Ability to distinguish how value is created for different customer groups/segments and how value is communicated further throughout the organisation 4. Ability to communicate how the service provides value for the customer 5. Ability to share information and knowledge within the organisation regarding the services and successful service delivery processes
Step 2: Define service strategy	6. Establishing a service strategy and operational guidelines for a service business 7. Incorporated front office and back office in service design, development and delivery
Step 3: New service development, business models and pricing logics	8. Capability to comprehend and clarify value drivers instead of monetary ones 9. Various pricing logics for services, explicit value capturing logics for services 10. A process for commercialisation and productisation for services 11. Processes and structures for service design, development, packaging and delivery
Step 4: Improve capabilities and set measurable goals and incentives	12. Planned and executed incentives and measurable targets to sell services
Step 5: A separate service management function	14. Management should measure and understand the long-term profitability of the service business

2.2.1 The capabilities needed in different phases of servitisation

2.2.1.1 Pre-step: setting the scene and understand the service business

Homburg et al (2003) assert that process businesses with a service-oriented approach should transform their corporate culture and human resource management to be more service-focused. Interviewed business executives strongly hold that a service-oriented culture as well as the mind-set within the organisation is considered as a prerequisite for servitisation and these elements should, thus, be thoroughly supported (Mathieu 2001a)

2.2.1.2 Step 1: Identify the current services and customer needs

There are multiple approaches that one can use when it comes to identifying the existing services as well as customer needs. For instance, businesses could carry out an internal examination or survey to determine what services they already provide for their customers. Empirical research stemming from Kanninen et al (2017)'s firm study indicates the significance of listing, categorising already-provided services, providing detailed description of what kinds of benefits the offered services bringing to the customer, along with evaluating the costs of producing such services. Besides, gathering customer feedback to get a more profound understanding of customer needs and making services visible to customers is equally important for businesses in the process industry.

Another important factor that can contribute positively in the materialisation of servitisation in product-based businesses is to persuade both internal and external stakeholders to be in full agreement with the newly-established service offering. Examples of internal stakeholders include sales personnel, service designers, key account managers and so on. On the other hand, external stakeholders could be customers, suppliers, vendors and so on. According to Anderson et al. (2017), product-oriented companies either take their already-provided services for granted and often consider them as essential parts of their products. This resembles the situation in manufacturing industries before the consolidation of service offering as services are merely considered as add-ons to products.

With a view to changing such practices, product-oriented businesses need to figure out an effective way to make customer understand that accepting the new offering is much more beneficial than sticking with the existing product-based offering. On that account, a visible and easy-to-understand service catalogue is a powerful communication instrument that can be used both internally and externally. It is recommended that companies prepare references which can be circulated internally to establish a strong sense of credibility and facilitate the transformation of servitisation (Kanninen et al, 2007)

Even though determining the current level of services is an internal activity, process businesses need to take the customer's needs into consideration at this stage. It is strongly stressed among interviewees in the firm case that service development would be a fruitless endeavour if not executed together with the customers. Ulaga and Reinartz (2011) agree with this mind-set, further stating that service development should be done jointly with customers while taking their needs into account. This is particularly true when the service development moves forward, the company should learn to communicate cross-functionally and perform planning with the customer on a regular basis, so that companies can integrate their own resources and capabilities in order to cater to the customer's situation and set joint goals, as stated by Storbacka (2011).

Results from the case firms by Kanninen et al (2018) are also in agreement with Neu and Brown (2015) that employees working in customer interface are essential in enhancing business-to-business services. Additionally, with a view to establishing trust in the service business and strengthening the internal dedication, sharing knowledge regarding service inside the organisation is highly recommended.

2.2.1.3 Step 2: Define service strategy

Subsequently, process businesses need to establish a service strategy as well as figuring out a way for the front and back office integration to take place (Kanninen et al, 2007). Back office is the portion of a company that is devoted to producing a product or service along with other labour that is not client-facing, such as administration, accounting or IT services. Whereas, front office is the part of a company that encounters clients, for example, customer service or sales (Zomerdijk et al, 2007)

Similar to manufacturing industry organisational changes are also required in process industry for servitisation. In this phase, according to Kowalkowski et al (2011), as a means to ensure successful service delivery, it is necessary for front- and back- office employees to exchange information with one another. In addition, the service personnel in front office and the product development in back office should be able to exchange feedback effortlessly to provide a service that satisfies customer requirements. Other research has also shown that front- and back- office integration is essential from the standpoint of the allocation and coordination of resources (Storbacka, 2011). Therefore, in order to thrive in creating market-appropriate services, managers in process businesses should have access to all internal resources and simultaneously should be capable of coordinating the complete service process, pricing the service strategically, as well as understanding and controlling the expense of providing the service (Kanninen et al, 2017)

2.2.1.4 Step 3: New service development, business models and pricing logics

In step 3, new business models and pricing logics should be outlined. Within the process business, it is rather common for services to be project-based, sold separately and particularly catered to each individual customer's case. For that reason, in accordance with Kanninen et al (2017), more defined processes and commercialisation are required.

In a general sense, commercialisation denotes the process of releasing new products and services to the market. Commercialisation usually covers production, distribution, marketing, sales, customer support and other operations which are of great importance to obtain the commercial success of the new offering (Investopedia, 2019). In a similar sense, commercialisation, in this context, refers to the matters concerning the customer interface, including a company's ability to comprehend how value is developed for the customer by services, how demand is generated for the services, how to sell the services as well how to secure compensation for them. It is advised at this stage that businesses should learn how to identify the customer's value drivers, rather than identifying merely the monetary elements (Kanninen et al, 2017).

2.2.1.5 Step 4: Improve capabilities and set measurable goals and incentives

In step 4 companies should enhance their service capabilities, establish objectives, along with incentives to improve service sales. According to Kanninen et al (2017), process companies tend to have problems that are rooted in sales, marketing, and communication, rather than technical capabilities. For that reason, investment relating to staff's motivation level, training, and other capabilities should be particularly emphasised at this stage as people is the most critical asset in service businesses.

Having improved capabilities, it is recommended by Kanninen et al (2017) that the company establish measurable objectives, follow-up routines and separate incentives for service sales. It is because most case firms bundle services with products, instead of pricing them separately. Furthermore, as the service revenues are often significantly lower than those generated by product sales, it is important to take the special nature of service offerings into consideration. The company also needs to establish more progressive and reasonable incentives for services. It could start with service discussions with customers, particularly discussions relating to the number of service units sold, as well as customer retention measurements. Additionally, it is believed that IT tools and systems, involving knowledge codification, sharing solutions, value quantifiers, customer relationship management (CRM) systems, updated online lists of services, should be upgraded in order to facilitate improvements in service sales.

2.2.1.6 Step 5: A separate service management function

In the final step of the product-service transition in the process industry is to establish a separate service unit. Multiple authors hold the same viewpoint that in order to enhance the probability of accomplishing service-oriented performance results, process industry businesses are advised to set up an independent customer-facing service unit (Brax, 2005; Gebauer and Friedli, 2005; Turunen and Toivonen, 2011). It is also of great importance to distribute adequate resources to achieve a successful level of service management and long-term service profitability.

According to Kanninen et al (2017), one interviewed case firm believes that clearly-defined roles and responsibilities are essential when it boils down to managing their service business endeavours. In addition, another case company reports that having an independent subsidiary company concentrating exclusively on services has also been crucial for their business success.

Kanninen et al (2017) claim that the benefits of having a separate business unit to handle services involves enabling a more credible and service-focused brand image and promoting service charging. Moreover, several past studies have shown that in a separate business unit, the target of the service business is often more precisely-defined, thereby allowing employees to become more engaged and committed to the service business goals. On the other hand, one of the challenges associated with such initiatives reported by the study firm is the lack of commitment and investment in service development (Gebauer and Fleisch, 2007). Most importantly, process businesses reaching to this stage are consulted to ensure that service development is a continuing process and the very process needs to be implemented alongside customers.

2.3 Barriers and alignment needs

As the previous parts of this thesis have touched on the essential capabilities and required steps needed for product-oriented companies to make the service transformation, one should also examine an extensive checklist of potential challenges for an effective launch of service-oriented transformation or, in other words, what Töytäri et al (2018) refer as “smart services”.

In short, smart services refer to innovative offerings that originally possess a low demand and calls for transparent indication of value to all stakeholders (Töytäri et al, 2018). Smart services also help shed light on the frequently-neglected question regarding how value is created from the very beginning. Therefore, smart services produce a fundamental change to what, how value is created as well as how value is shared within business ecosystems (Adner and Kapoor, 2010)

According to Töytäri et al (2018), smart services often lead to outcome-based agreements among businesses. Outcome-based agreements are defined as an agreement between a customer or client and a supplier or vendor whereby the supplier is contracted to directly obtain business objectives for and with the customer, instead of being contracted with respect to delivery of the supplier’s inputs, outputs or deliverables (Hou and Neely, 2018). It is believed that digital transformation improves organisational exchange and creates new and exciting opportunities for value creation (Brynjolfsson and McAfree, 2012). Moreover, digital transformation allows smart services to take place and represent value offerings. Those value offerings are usually enabled by information which is produced, evaluated, and transmitted through digital technologies. This in turn will help enhance business performance by means of analysis, optimisation, prediction and integration (Allmendinger and Lombreglia, 2005).

Töytäri et al's (2018) research indicates that successful execution of a service innovation demands the synchronised change of organisational mind-set and capabilities within the business and often within the inextricably linked business ecosystem. Organisational mind-set, in this case, consist of beliefs, norms and rules. Capabilities, on the other hand, include skills, routines and assets. Furthermore, the following table 2 indicates two categories of barriers and three categories of alignment that are needed to successfully adopt smart services.

Table 2. Categories of barriers and alignment needs (from Töytäri et al. 2018)

Categories of barriers	1. Internal mind-set barriers 2. Internal capabilities barriers
Categories of alignment needs	1. Internal imbalance between capabilities and mind-set 2. Inter-organisational misalignment of mind-set 3. Inter-organisational mismatch of capability

2.3.1 Barriers

2.3.1.1 Internal mind-set barriers

It is widely agreed among the interviewees that one of the most noticeable internal differences of mind-set is the disagreement of logic between managers and the rest of the organisation. This is because managers are often exposed to external influences and thus, it is much quicker for them to adopt a new mind-set/logic. However, it is not the case for the rest of organisation. Having internal mind-set barriers are thought to "*challenge* ***the new vision involving smart services"*** and "***the legitimacy of smart services"*** to penetrate throughout the organisation. The following paragraphs will provide more detailed reasons Töytäri et al (2018)

Role-related contradictions are one of the findings attempting to explain why new vision involving smart services is hard to grasp throughout the organisation. According to Töytäri et al (2018), the respondents usually consider their company as product-oriented, meaning that the company considers products as the core and services as a mere extension to product portfolio. Respondents, in this context, mean experienced senior managers in the case organisations.

Thus, the respondents specified their duties centring around products. Moreover, sales people often encountered conflicting obligations owing to their boundary-spanning role.

As stated by Aldrich & Herker (1997), boundary-spanning roles are job positions in which employees are under obligation to meet the public or employees of other firms. Thus, the respondents consider service and product sales substantially different from one another, thereby encountering a role conflict. Besides, multiple respondents in the firm case thought engaging in service sales would have limited them from doing their actual job. For instance, it is often the case that maintenance sales are a competing alternative to product sales. Consequently, the respondents experienced a goal conflict.

The new vision involving smart services is also dependent on the stakeholder's understanding of the underlying logic. As stated by Töytäri et al (2018), respondents who particularly held on to the cost logic were not likely to appreciate the value-creating factors of smart services that did not exist in their value conception. Anderson & Wynstra (2010) also agree with this statement, believing that customer managers are used to price as opposed to value, resulting in misleading views about value relative to price. Cost-based pricing approaches determine prices primarily stemmed from data from cost accounting. Hinterhuber (2008a) acknowledges that the intrinsic problems of cost-based pricing approaches include not taking competition nor customer willingness to pay into consideration.

Apart from that, the lack of managerial insights makes it more challenging for respondents to establish and carry out the new vision to assist the logic change. Furthermore, cost-logic pricing also erodes efficiency. If production costs decrease, cost-logic pricing would suggest that pricing should too be decreased. What would happen then is one will be losing out on profits. One does not have the incentive to lower any costs or seek for quicker, cost-effective, and more efficient way of producing products. Consequently, any business with a predominant cost-logic approach might run a risk of becoming complacent. In the meantime, competitors could be taking steps to produce higher-quality product faster, which in turn allows them to steal the market share (Töytäri et al, 2018).

More specifically, pricing comes down to what customers is willing to pay for a product. Even if a designed pair of shoes can cost as little as 10 euros to produce, customers will pay 100 euros for it if a famous athlete's name is attached to those shoes. However, if one applies cost-logic in this specific case, meaning he/she would price the same pair of shoes for 20 euro assuming 10 euros is the manufacturing costs, then he/she will miss out the opportunity of cashing in the extra profits. Holden and Burton (2008) agree with this viewpoint, further stating that cost-based pricing “ignores demand, image, marketing positioning and the role of consumers and the value they derive”.

The legitimacy of smart services is also challenged by the internal mind-set barriers. In the firm case, the respondents did not believe that smart services are reasonable expansion of their business activities. In other cases, the respondents did not share the new vision of smart services and the following new logic. The resources and capabilities are recorded to be lacking in order to be successful with smart services and in some cases, the respondents are simply afraid of the change. Furthermore, the respondents are also afraid that if the smart services do not live up to their customers’ expectations, meaning smart services do not work as they are supposed to, the company will be negatively affected by it via worsening relationship with customers, image problems and unplanned workloads (Töytäri et al, 2018).

2.3.1.2 Internal capability barriers

According to Töytäri et al (2018), smart services are built on a combination of resources and capabilities. This resource-capability combination could either be extended or partially become a replacement for the existing resource and capability portfolio. There are three categories of resource and capability-focused barriers: 1) the applicability of the current fleet of equipment as a platform for smart services, 2) a prevailing mismatch in governance structure and 3) other missing resources and capabilities.

First and foremost, there have been several issues regarding the readiness of the existing fleet of equipment and people to serve as a platform for smart services. The current fleet of equipment is often technically, geographically and legally incompatible with the growing demand (Töytäri et al, 2018).

More specifically, the installed base of equipment was often established over a long period of time. Every installed base is slightly different from one another and consists of different component parts. And after an extensive amount of time, namely the product life cycle, it is becoming increasingly challenging for people to keep track of. Furthermore, if the installed based equipment is sparsely located, it will be difficult to establish a smart service for them. Additionally, it is found in the firm case that the support for the digitalisation is commonly inconsistent with the abundance of the information flow. Despite the fact that one could develop a solution to unify the fleet by modernisation investments, it could be the case that such investments might not be lucrative. Besides, conflicting viewpoints between the company and the customer on the ownership of data and the insufficiency of legal framework when it comes to regulating the use of the data, generated by the fleet, are the two main reasons why companies find it hard to invest in smart services (Töytäri et al, 2018).

Secondly, it is revealed that current governance structures, such as organisational structure, management processes, performance incentivises and reinforces obsolete practices (Suchman, 1995). Outdated structures and gaps in infrastructure are believed to impede change. Besides, management cultures in the studied firm often support and reward short-term achievements of product-based offerings since smart services indicate complex and challenging-to-evaluate offerings. Furthermore, the sales cycles of smart services are long and often results are subject to risk.

Thirdly, it is reported that there is also a deficiency in resources and capabilities, which consists of profitability-induced constraints on developing resources, disparity in business infrastructure, incompetence in communicating value, and lastly liability management. More precisely, the researched businesses find it hard to establish, access and sell the value of smart services offerings. Additionally, as the relationship with the customer centres around product-oriented exchange and customer-driven buying process, it is often the case that the marketing and sales departments do not possess the ability to analyse and understand customers' processes, key drivers, possible challenges and more importantly, how to tailor their novel offerings to those challenges in order to demonstrate a real business impact (Töytäri et al, 2018).

Regarding liability management, the studied firm expressed its concerns about the strong need to manage and protect against any reliability issues in terms of access to confidential information (Töytäri et al, 2018).

2.3.2 Alignment needs

2.3.2.1 Internal imbalance between capabilities and mind-set

Internal imbalance means that the level of capabilities and the service-oriented mind-set in organisation do not match with each other (Töytäri et al, 2018).

In many cases, there is a disparity in the case firms' vision and their capability portfolios. More specifically, businesses that have a clear vision and value logic in smart services have troubles in acknowledging and renewing their resources and capabilities in order to serve the new vision. On the other hand, companies, which may already have established resources and capabilities, do have not possess either the strategy or the vision to fully take advantage of them. In the end, according to Töytäri et al (2018), the firms realised the need to align their resources and capabilities with the vision

2.3.2.2 Inter-organisational misalignment of mind-set

Inter-organisational misalignment means conflicting views between suppliers' and customers' mind-set (Töytäri et al, 2018).

It is discovered from the studied firms that once they successfully tackled the internal mind-set barriers, resource and capability constraints, they will be more likely to encounter external barriers. As stated by Grönroos & Helle (2010), as the studied firms are quicker in adopting smart services as well as value logic, it is now their customers who would struggle to understand the value propositions, proactive sales approach, new pricing models, higher level of contacts, and many more. It is also because most of the case firms' brand images are as product-oriented companies, which in and of itself, represents a significant perceptual barrier. Moreover, even when product-oriented case companies have put some strenuous efforts into rebranding themselves, the traditional core business and the business relationships tend to resist the identity evolution.

There is no denying that smart services contribute to the problem of information asymmetry. Thanks to the fleet, there is an accumulated amount of production information available for the suppliers to use. However, the decision to share that knowledge with customers is a hard-to-make one. This is mainly because warning customers about possible issues in the future might have a negative effect in the quality image of the suppliers and could potentially result in customers seeking new demands. Smart services were undoubtedly made possible by the transparency of information and consequently help both parties to enhance their performance. However, this kind of transparency requires a high level of trust and open customer relationships (Töytäri et al, 2018).

Another reason that could make the customers feel hesitant regarding smart services is the legitimate ground for billing. Unlike product-based offerings, smart services often generate value without any physical or visible action from the suppliers. Nevertheless, customers or industrial actors often associate value creation with tangible and concrete actions such as service visits and on that account, they are far more willing to pay for actions, instead of outcomes (Töytäri et al, 2018).

As previously mentioned before, for both parties, namely the customers and the suppliers, to benefit from smart service, they need to cooperate with each other by providing necessary sets of information and processes from their firms (Matthyssens and Vandenbempt, 2008). It has been discovered from the case firms by Töytäri et al (2018) that the establishment of such relationship practices impede dependence and deeper relationships.

This is mainly because during the cooperation process, there are fears of being taken advantage of or the other firm would become opportunistic, rather than appreciating the possible benefits of partnership. Furthermore, both parties are oftentimes ambiguous about firm boundaries, such as who is responsible for what and when. Therefore, it is suggested that possible ways of creating value requires sufficient understanding from both sides to accurately redefine roles as well responsibilities within business relationships (Van Weele, 2009).

2.3.2.3 Inter-organisational mismatch of capability

Inter-organisational mismatch means neither customers nor suppliers' capabilities match the other (Töytäri et al, 2018).

During the value co-creation process, exchange parties generate value by incorporating their resources and capabilities in joint processes. However, it is apparent from the case firms that they might not have the complementary resources as well as capabilities and therefore are unable to complete their share of the joint value creation (Töytäri et al, 2018).

Additionally, it is found in the case firms that conflict of earnings model is also one of the causes that leads to inter-organisational mismatch of capability regarding selling smart services. If they cannot convince their own customers to believe in the value proposition of smart services, it is rather understandable that the customers would turn out to be resistant towards smart services offered by their suppliers. For instance, if the customers make a great deal of profits by selling the spare parts of certain equipment to their own customers, it would not make any sense for them to purchase smart services from their suppliers whose value proposition communicates a more holistic value optimisation scope (Töytäri et al, 2018).

Finally, work is often redistributed between different stakeholders to maximise value creation for all of them. This forces companies to push their organisational boundaries and reallocate their processes, resources and capabilities. For instance, customers need to outsource a business function to the suppliers. However, existing organisational structures such as reward system or external factors including trade unions can hinder these actions. Furthermore, as stated by Töytäri et al (2018), customers are often reluctant to give up parts of their resources and capabilities as they are afraid of losing competitive advantage or becoming too dependent on other parties.

3 Value-based service exchange

As previously mentioned, in today's commoditised business world, the transition from product-based offering to service-based, which is known as 'servitisation', is highly recommended to businesses to regain competitiveness. However, this phenomenon further begs the question regarding how one can monetise services or on which basis one would justify charging their customers if their offered 'products' are essentially services. This is where the concepts of value-based pricing and value-based selling come in and they are practical tools that companies can use to make servitisation happen.

This perspective is particularly advocated by Töytäri et al (2015), further expressing how more and more industrial companies aim to differentiate themselves from their cost-driven rivals by offering their customers value-based services. Such businesses engage customers to create value jointly with them while capturing some of that added value. This calls for value-driven activities such as value-based pricing and value-based selling which will be introduced in this chapter.

3.1 Value-based pricing

In accordance with Forbis and Mehta (1981), Töytäri et al (2015) illustrate the available price range from the supplier cost to the customer-perceived value with the actual price falling between them in Figure 2 below.

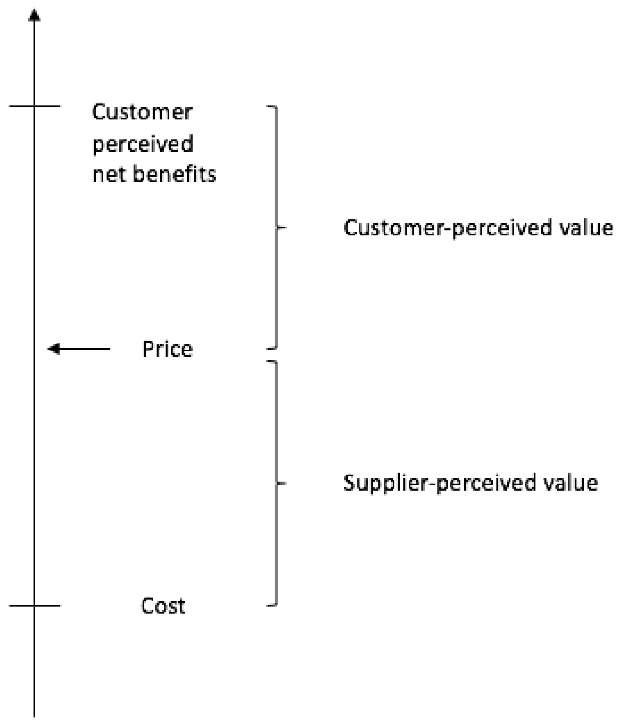

Figure 2. The available price range (from Töytäri et al, 2015)

Value-based pricing essentially aims to figure out how much customers are willing to pay for one's products or services, so that businesses can maximise their profits by charging the exact amount equalling customers' willingness to pay (Harmon et al, 2009). In other words, businesses need to identify what the customer-perceived value is in order to achieve such notion.

As depicted in Figure 2 the value customers perceive is the difference between the customer purchase price and the attained net benefits. As stated by Brandenburger & Stuart (1996), perceived net benefits set an upper limit for the price as customers are not willing to pay more. Moreover, the customer's perceived net benefits equal the benefits the customer obtain from the offering minus the costs incurred when using it (Anderson and Wynstra, 2010, 31). Similarly, as indicated in Figure 2, the value supplier perceives equals to the difference between selling price and the costs of producing the product/service. It is abundantly clear that selling below cost would not be profitable for suppliers. Therefore, prices are established within the displayed range and the share of value each party attains is determined by the price (Kortge & Okonkwo, 1993).

3.1.1 Challenges in strategy implementation

Past literature has identified three main pricing approaches all based on different fundamentals (Hinterhuber, 2008a). The first one, cost-based pricing, uses supplier cost as the basis for pricing, whereas the second one, competition-based pricing is based on common market price. The third one, value-based pricing, refers to customer value as mentioned above. Flint et al (2002) further claims that the value customers perceive can be referred as the customer's intended final status. Customer value is dynamic by nature and heavily dependent on contextual factors resulting in differing estimates over time determined by the business situation at hand (Hinterhuber, 2008a). Flint et al (2002) add that the value perceptions are oftentimes subjective, diverse and therefore challenging to predict. Therefore, it is reasonable to conclude that value-based pricing can be challenging to implement in practice.

Hinterhuber (2008a) identifies several obstacles to value-based pricing including value assessment, communication, segmentation and sales force management which will be presented below. To overcome these obstacles, some solutions are also introduced. Hinterbuber's research was drawn from a quantitative study consisting of a sample of more than 100 managers from different functions. The reprsentative nine companies covered also different industries such as automotive and information technology and four different countries.

3.1.1.1 Difficulties in conducting value assessment

According to Hinterhuber (2008a), respondents from different industries all share the same struggle of implementing value-based pricing strategies. In a nutshell, determining an appropiate price is difficult when the company lacks the understanding of the value its offering creates for its customers.

Nonetheless, it is revealed that the most efficient method of tackling the value-assesment situation is meticulous and accurate value measurement. As stated by Nagle and Holden (2002) Offering's reference value – the price for the best alternative – added with the value differentiating the offering from the reference determines the customer value. To measure this consequence, Hinterhuber (2008a) recommends different methodologies listed below, including expert and focus group workshops to assess the value.

Expert interview: Companies should arrange brainstorming workshops for senior representatives in various functions from both front and back office such as sales, and finance to achieve a mutual understanding of customer value. These experts might have different ideas about the building blocks of customer value and, in the end, value-based pricing strategies require concrete justification which highlights the importance of mutual agreement Hinterhuber (2008a).

Focus group assessment of value: Companies should gather customers into focus groups of 5-15 people to evaluate the value-in-use of new offerings. These would, then, later help in setting the price level Hinterhuber (2008a)

Trade-off analysis: Customers are required to make trade-offs between different offerings with a wide range of certain features in line with the methodology recommended by Auty (1995). By systematically varying these features, the goal is to gain an understanding of the value that customers associate for the different features. Furthermore, this methodology can place value for intangible features such as brand value or company reputation.

Observation of value-in-use: To properly understand the value created by offering, companies can simply go and observe customers when they're using the offering. Firstly, this allows companies to understand the how satisfied customers actually are and pinpoint possible pain points they might have. Secondly, this might also shed light on unfulfilled customer needs, expectations, as well as issues that did not arise in brainstorming or focus group workshops Hinterhuber (2008a).

Importance ratings: Customers are asked to rate the importance of both existing and new offering features to derive the customer value for existing and new offerings. This methodology was introduced by Matzlet et al (1996) and it helps companies understand to match the customer needs rather than providing something irrelevant and leaving something important out. Thus, companies are more likely to obtain the highest value when providing offering that is perceived as highly important.

To conclude, combining several methodologies yields the most accurate estimate for customer value. To begin with, it makes sense for companies to first gain an internal understanding via expert workshops before testing hypotheses in focus groups. Later, the results can be validated with observation or tade-off analyses.

3.1.1.2 Difficulties with communicating value

Deficiency in value communication poses the second most common challenge with the implementation of value-based pricing strategies (Hinterhuber, 2008a). This is due to the fact that customers nowadays are bombarded with different types of advertising, including television or print advertisements and spam emails. Therefore, standing out to customers through traditional media outlets becomes increasingly challenging, which calls for unique or impressive marketing tactics.

With the aim of strenghthening the communication of customer value, three levels of communication should be acknowledged and ultilised accordingly. They are product features communication, customer benefits communication and benefits communication in accordance with customer needs respectively. First and foremost, product features communication is the simplest form of value communication as it merely advises customers of offering features. However, the downside of this approach is customers often pay little to no attention to these features (Hinterhuber, 2008a)

Second, communication of value, on a high level, refers to customer benefits. For instance, noise-reducing insulation or more comfortable headphones. Nonetheless, the drawback of this method is that companies might lack the understanding whether certain benefits are relevant for customers or not (Hinterhuber, 2008a). This highlights the need for value assesment methods described before especially the importance rating method.

Lastly, bundling the communication of benefits and customer needs is the most advanced form of value communication whereby customers needs, whether implicit or explicit, are addressed. As a result, the advertising message is more likely to be received and remembered as needed benefits, instead of generally applicable features, are communicated and matched with specific needs. A primitive example of this could be an advertising campaign of tyre companies emphasising on the safety of children in cars, which for many customers is the utmost need.

3.1.1.3 Difficulties with market segmentation

Hinterhuber (2008a) holds that it is rather difficult to get market segmentation right as marketing theory still lacks profound guidance for market segmentation. More specifically, Webster (2005) claims that the gist of marketing strategies – ‘four Ps’, which are product, price, place, and promotion – is missing marketing fundamentals such as as market segmentation, targeting and position.

Similar to value communication, customer needs are again defined as the basis of success as Hinterhuber (2008a) claims that they should form the basis for segmentation. This is due to the fact that a segmentation based on needs is an enabler for tailored marketing and pricing strategies. Furthermore, this kind of segmentation allows companies not only to evaluate the potential of the "price-driven" segment but also other segments preferring other features to price.

3.1.1.4 Difficulties with sales force management

Sales force management poses the fourth most common challenge. In order to meet the yearly sales targets, sales people tend to provide their customers with discounts while overlooking the negative long-term effects (Hinterhuber, 2008a). Hence, Hinterhuber (2008a) stresses the importance of clear sales discount guidelines.

<u>Level of authority for sales discounts</u>: According to Stepheson et al (1979), imposing certain restrictions on the price-setting authority of sales force can increase profitability. Nonetheless, under certain circumstances, there are exceptions including a) situations whereby sales personnel have reliable insights into the customer's willingness to pay, b) cases whereby salespeople have exceptional negotiation skills, c) cases whereby enthusiasm to pay varies drastically among customers, and finally d) in cases whereby the nature of products is complex or perishable.

<u>Sales force remuneration systems</u>: Businesses have conventionally had sales volume based incentives for sales force instead of profits. However, profitability should be the basis of rewarding rather than sales volumes or market share, when considering value-based pricing strategies (Hinterhuber, 2008a). This is contradictionary to what has been discussed earlier regarding service-related incentives for process industry, as Kanninen et al (2017) still suggest that incentives could be tied to sales volume rather than profits. Hinterhuber (2008a) further highlights that the level of sales commission can also be varied. Management should give higher commission to the sales force who pay attention to sales quality, for example, by developing customer relationships than to those who are merely going after volume.

Sales force training and development: Implementing value-based pricing effectively needs a fundanmentally different mindset, which in turn requires changing sales force training and development. Rather than presenting compelling sales arguments, salesforce has to be able understand the customer needs by listening and picking up subtle hints. In the end, they need to learn to sell solutions matching these needs (Hinterhuber, 2008a).

Sales force monitoring: To ensure that sales force meets the price-setting restrictions, sales force should be monitored to spot any price disparities. Additionally, financial stimulus should be provided to sales staff in order to maintain list prices. Likewise, according to Sodhi and Sodhi (2018), it is also necessary to impose financial penalties for sales personnel that exercise excessive discounting.

3.1.1.5 Difficulties with senior management support

A lack of support from senior management poses another challenge, addressed by more than 50 percent of workshop participants in the case study of Hinterhuber (2008a). However, there are various means to obtain support from senior management, including lobbying, networking, as well as bargaining. With senior management's mandate middle-management can then execute value-based pricing strategies. This viewpoint is supported by recent research by Jacobson (2007), which states that top-management is getting more often engaged with pricing projects.

3.2 Value-based selling

The presentation of value in sales function varies based on different sales strategies. More specifically, whereas product and services sales deals with customer needs targeting the purchase process (Töytäri et al, 2011), solution selling addresses potential customer challenge aligned with the customer use process (Tuli et al, 2007). On the other hand, value-based selling comes down to making customers excel in their own business through an effective and proactive approach.

3.2.1 How to conceptualise value-based selling

To explore the fundamentals of value-based selling and how it compares to other selling practices, Terho et al (2012) conducted interviews with managers from eleven international companies. These companies operate in various industries such as media, IT solutions and manufacturing. Upon completing the studies, Terho et al (2012) identify the three most important phases for value-based selling: "1) understanding the customer's business model, 2) crafting the value proposition, and 3) communicating customer value." They will be described below.

3.2.1.1 Understanding the customer's business model

In short, understanding the customer's business model refers to the extent to which a salesperson pays attention to determining leading factors of customer's earning logic. This deep understanding will serve as a foundation for crafting the most effective value propositions as well as finding ways to communicate them effectively to customers (Terho et al, 2012).

In Terho et al (2012)'s research regarding conceptualising value-based pricing, all respondents agreed that "understanding of the customer's business goals" forms the foundation for value-based pricing. Apart from this, the need to understand how the customers make their money and their earning logic are also viewed as critical when it comes to value-based selling. Furthermore, four key elements in customer's business model "customer's value proposition, profit formula, key resources and key processes" outlined by John et al (2008) were also mentioned as important factors in various interviewees.

Additionally, it is also critical to go above and beyond the obvious customer needs as customers are frequently incapable of clarifying their actual business needs Terho et al (2012). Otherwise, selling is limited to pre-established requirements as there is no understanding of customer business fundamentals. Leonard & Rayport (1997) and Tuli et al (2017) share the same viewpoint on the issue and pinpoint that customers are not fully aware of the difference between these pre-established requirements, such as functional specifications, and business needs or the difference between current and future needs. This emphasises the need for sales force's ability to pick up the subtlest hints discussed earlier in sales force training and development.

Lastly, it is stressed that by understanding the customer's goals and business model, sales force can determine the most critical value determinants that help add significant value to a client's business. According to Narver, Slater & MacLachlan (2004), understanding customer goals thoroughly helps sales force not only to make the biggest impact on customer business but also helps the company to differentiate from its competitors.

3.2.1.2 Crafting the value proposition

According to Terho et al (2012), crafting a value proposition refers to the level of quantification that sales force does when evaluating the offering's potential impact on customer's business. The aim of quantification effort is to establish concrete evidence in order to justify for the monetary implication of the offering in the customer application for value-in-use. There are different methods that one can use to determine value quantification efforts, including "return-on-investment studies" and "lifecycle calculations" (Terho et al, 2012)

Liu and Leach (2011) continue stating that the focus of value-based selling is all about identifying customer problems actively and creating mutually beneficial solutions to those problems. Therefore, active identification of the customer's problems and co-creation of value that will have a consequential impact on the customer's business should become the focal point for value-oriented salespeople.

In agreement with what has been discussed earlier regarding the identification of customer needs in process industry, a value proposition can only be considered effective when mutually done with the customer and case-specific data. This is aligned with the distinction that Ballantyne et al (2011) draws between "co-creating" or merely "delivering" value. It is also important to accumulate knowledge during this process as the value-in-use data gathered from one client can be used for another client.

Another important factor is to make the size of the value opportunity evident to the customer (Terho et al, 2012). There is no use trying to achieve the most accurate estimate if customer does not buy it. Hence, Anderson et al (2006) claim that only the most feasible elements of the quantification should be emphasised in sales negotiations. This view is further supported by Ballantyne et al (2011), stressing that an offering's value-in-use is only acknowledged through the customer's consumption, and by only realising those values, customers will help create a reciprocal promise of value.

3.2.1.3 Communicating the value proposition

In short, communicating the value proposition refers to the extent to which salespeople concentrate on persuading customers how the suggested offering would increase customers' profitability (Terho et al, 2012). It is widely agreed among interviewees that presenting the sales offering's contribution to customer's income statement is the most important element of the sales communication. Additionally, value-oriented salespeople should root their presentation back to the quantification done in the previous phase and be prepared to show evidence, instead of purely claiming to save money/resources or improve customer's profits. In support of this standpoint, Anderson and Wynstra (2010) further express that explicit and transparent evidence of value will serve as an effective mechanism to mitigate any ambiguity concerning superior value for the customers.

Communicating the value proposition should also focus on reducing customer risks. There are two commonly used risk deduction strategies identified by Terho et al (2012). First, in compliance with Salminen and Möller (2006), references can act as a powerful demonstration of past successes as well as a guarantee for customer that the provider is capable of delivering the value it proposes. Second, companies with an emphasis on value-based selling should put in strenuous efforts in executing guarantees to signal their ability to deliver superior value.

3.2.2 Identifying customers as a pre-step

In comparison with the conceptualisation for value-based selling provided by Terho et al (2012), Töytäri et al (2011) conducted research on two global players, Pulp&PaperCo and Vaisala Oyj, with a view to demonstrating how value-based selling and approaches are applied in real-life business cases. As a result, they came up with a process framework for a value-based sales process demonstrated in Figure 3.

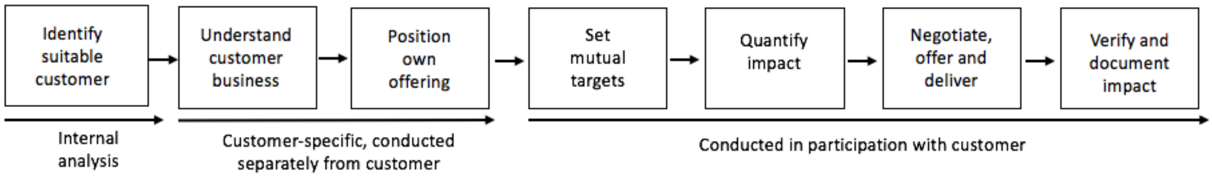

Figure 3. Step-by-step framework for a value-based sales process (from Töytäri et al, 2011)

In comparison with Töytäri et al (2011)'s research papers, what has been missing in Terho et al (2012)'s model when it comes to conceptualising value-based selling is the pre-step of internally identifying potential customers. This is a rather important element when it comes to the success of value-based selling. According to Kaario et al (2003), suitable customers are, firstly, the ones that the most willing to collaborate. Secondly, companies have to evaluate how valuable the relationship with these customers would be. If none of these dimensions meet up the threshold, companies should continue selling to these customers traditionally. This approach helps to mitigate the risk of opportunistic firm behaviour that was mentioned earlier regarding the inter-organisational misalignment of mind-set when providing smart services (Van Weele, 2009).

3.2.3 Consequences of value-based selling

Upon analysing the interview results of the studied firms, three general types of potential implications of value-based selling behaviours are identified. They consist of "seller-related, relationship-related and customer-related outcomes" which can be achieved both at individual and organisational level, as demonstrated in Figure 4 below (Schwepker, 2003).

Value-based selling behaviour		Potential consequences of value-based selling
Understanding the customer's business • Understanding the customer's business logic and ambitions in order to exceed their initial requirements in selling • Determining substantial drivers of value in the customer's business, with the engagement of customers		**Seller outcomes** • Sales • Enhanced conversion rate (closing ratio) • Enhanced sales with higher turnovers • Organisational selling performance
Crafting the value proposition • Active identification and crafting offering that will leave a significant impact on the customer's business revenues on the basis of customer involvement and accumulated knowledge • Quantifying the size of the offering's value opportunity to the customer	➡	**Relationship outcomes** • Customer satisfaction • Loyalty, strengthening customer relationships • Lowered level of price sensitivity
Communicating value • Trustworthy demonstration of how the value can contribute to the customer's business and their overall revenues • Demonstration of quantified evidence, transparency and clear minimisation of customer risk, particularly via the use of references and guarantees		**Customer outcomes** • Achievement of business goals • Market and financial performance

Figure 4. Conceptualisation of value-based selling and its possible consequences (from Terho et al, 2011)

3.2.3.1 Seller-related outcomes

First and foremost, seller-related outcomes, in this context, means improved deal-success rate, improved sales at higher profit as well as enhanced selling performance at an organisational level. More specifically, value propositions that help customers to meet their business goals and are effectively communicated to them can substantially assist customers in making the purchasing decision and increase the share of successfully closed deals (Terho et al, 2012).

Besides, as the nature of value-based selling is to help customers to meet their business goals, the attention of decision-making shifts from cost-effective purchase activities to business investments. Consequently, it helps to sell more lucrative products or services.

Lastly, according to Terho et al (2012), the general implementation of value-based selling behaviours strengthens the link between sales force and organisational performance.

3.2.3.2 Customer-related outcomes

Secondly, value-based selling behaviours can also lead to *customer-related outcomes*. As already mentioned above, ultimately value-based selling aims to help customers in excelling in their own businesses. Hence, it is obvious that respondents of Terho et al's (2012) study commonly expressed how value-based selling behaviour supports value creation alongside customers, which in turn helps customers to improve their performance and achieve their business goals in an effective manner.

3.2.3.3 Relationship-related outcomes

Thirdly, selling that gives rise to superior customer value may also have *relationship-related outcomes* both at the interpersonal and organisational level. This is mainly because if companies manage successfully to acquire a deep understanding in customers' business needs, forming credible value propositions and finding a way to communicate those values to prospective customers, then it would in turn lead to an increase in customer satisfaction, customer loyalty and deepening customer relationships (Terho et al, 2011).

Furthermore, for companies with a focus on value-based selling, relationship-related outcomes manifest themselves as higher share of customer's wallet together with lower price sensitivity. Price sensitivity, in a general sense, refers to the degree to which the offering price affects consumers' purchasing behaviours (Han et al, 2001). In this specific context, an example of price sensitivity is that consumers will have lower price sensitivity, or in other words, do not pay attention to a slight increase in price, if a product or service is unique or has few substitutes. This is in line with price elasticity of demand theory since price elasticity of demand is inelastic for unique or hard-to-substitute products.

More specifically, the price elasticity demand is calculated as the percentage change in quantity demanded divided by a percentage change in price. Price elasticity of demand that is less than 1 is inelastic, meaning that demand for product does not change drastically after an increase in price. For instance, a petrol consumer either needs gasoline or does not need it. An increase in price will have very insignificant or no effect on demand (Investopedia, 2020)

3.2.4 Managerial implications when implementing value-based selling

The outcomes discussed above do not only shed light on the potential of value-based selling but also lays the foundation for managerial implication of value-based selling. Similar to value-based pricing, management has to set guidelines on specific sales force capabilities to successfully implement value-based selling.

3.2.4.1 Finding the right customers and offering

As previously mentioned, Kaario et al (2003) suggest that only customers who are willing to partner and whose relationship is valuable are suitable for value-based selling approach. Additionally, Töytäri et al (2011) discover that offering characteristics determine its potential for value-based selling. Interestingly, the most suitable offering is the one with underestimated or unknown customer value. This is particularly true for a) new and innovative offering or b) solutions which incorporates both products and services, whose value customer has difficulties to perceive.

3.2.4.2 Salesperson-centricity

The expertise required by value-oriented salespeople exceeds the skillset commonly associated with sales force in past literature (Terho et al, 2012). In accordance with this argument, Töytäri et al (2011) discovered that the skill requirements for a value-based seller and a traditional salesman are vastly differing. Furthermore, this notion is aligned with what previously mentioned regarding the internal capability barriers when providing smart services (Töytäri et al, 2018).

Understandably, this makes it increasingly difficult for sales managers to both know what to demand from new salespeople and know how to manage them. Töytäri et al (2011) also claim that value-based selling calls for consultative and calculative capabilities – skill sets that are not commonly associated with traditional salespeople. As a result, maintaining and training value-based sales force, is far more challenging. Consequently, businesses shifting to value-based selling, should proactively ensure that their sales force is capable to operate in the required way.

3.2.4.3 Credible referencing

As previously discussed, in order to communicate value propositions successfully to customers, credible referencing is highly recommended. In support of this viewpoint, Töytäri et al (2011) further state that credible referencing is one of the most significant factors that contributes to the overall success of value-based selling. Anderson and Narus (1998) expressed the same viewpoint on the discussed topic, adding that apart from possessing credible reference, having the ability to present such references in a comprehensive manner is also equally important. Hence, documenting the perceived post-purchase value and customer’s satisfaction is critical especially when value calculation credibility is insufficient.

3.2.4.4 Reciprocal and iterative value quantification

As previously addressed, to craft the value propositions with most potential for customers, it should be quantified together and iteratively with the customer supported by multiple past studies (Anderson et al, 1993; Anderson and Narus, 2004; Anderson et al, 2007). In practise, this means cross-organisational teams and mutual-target setting for value analysis. This helps to create a strong sense of commitment between both parties in a way that creates values for customers and validates the expected customer impact (Töytäri et al, 2011). Finally, once the quantification is completed it should be substantiated with as many customer representatives as possible.

4 Conclusion

The first common feature of the transformation from products to services that both process and equipment manufacturing industries share is to determine the existing service offerings and consolidate more service offerings accordingly. In addition, both industries stress the importance of a monitoring or listing system which allows managers to access the productivity level and the efficiency of the service delivery in the case of the manufacturing industry. Moreover, a listing system is also encouraged in process businesses. This type of system will display the categorisation of pre-existing services, detailed descriptions of the benefits that the offering will bring to the customer, as well as the cost valuation for producing such services. In both industries as well as in value-based exchange catering to customer needs is deemed as the key element contributing to the successful implementation of servitisation.

Another commonality regarding the impact of servitisation in process and equipment manufacturing industries is the initial resistance of product-focused personnel who now would have a hard time understanding the concept of servitisation as well as adopting service-focused mind-set. For instance, it is the product-based sales personnel in the manufacturing industry that might need a cultural shift in their mind-set by means of more learning and training regarding how to value services as well as how to sell, deliver and bill them. In the case of the process industry, important external stakeholders such as customers could be potential opponents for the concept of servitisation. In such cases, process businesses are advised to find ways to communicate to customers that the benefits of agreeing to the new offering are far greater than deciding to stick with the existing product-based offering.

More importantly, both industries also agree that establishing a separate company or business unit to handle service offerings is a critical element when considering the success of servitisation. There are multiple advantages to this approach previously listed above by both Olivia and Kallenberg (2003) and Kanninen et al (2017). For instance, one can train and simultaneously instil the service-focused mind-set in the newly-hired sales force. Moreover, with a separate company, it is far easier to allocate sufficient resources for managing a service business to a successful level, especially with an understanding of long-term service profitability.

Besides, this specific approach towards servitisation will withstand scrutiny. There are two reasons to support this statement. First and foremost, as previously addressed, Töytäri et al (2012) conclude that an organisation shifting to value-based offerings should be active in terms of reshaping sales personnel to answer the new demands. However, the concept of servitisation is a relatively recent development, so traditional product-selling has been practiced much more widely, consistent with the prevailing view of services in manufacturing firms as add-ons. Service provision, including installation, commission, etc, is commonly given away free during the sales negotiations. Therefore, it would be unrealistic to expect sales personnel to completely change their product-oriented mind-set to a service-oriented one within a certain period of training.

Secondly, value-based selling requires consultative and calculative skills that are the types of skill sets that are rarely found among traditional product salespeople (Töytäri et al, 2012). If a traditional product business wishes to move toward servitisation, it would take a great deal of time, effort, and resources for these traditional product salespeople to learn and master calculative and particularly consultative skills. For that reason, it may safely be said that setting up a separate organisation whereby salespeople equipped with calculative and consultative skillsets are particularly selected to handle service offerings would undoubtedly be a good starting point for the success of servitisation.

Nonetheless, as Olivia and Kallenberg (2003) hold that regarding possible challenge that businesses might encounter by implementing this method is the need to formulate a global service infrastructure and the capability to respond locally to the requirement of the installed based. As previously mentioned in the internal capability barriers for smart services, Töytäri et al (2018) also discuss in details about this difficulty. However, a feasible solution has not been found, even though one potentially could develop a solution to unify the fleet by modernisation investments. Such solutions might not be profitable in the short-term, which is likely to discourage investors. Nevertheless, this could serve as a promising avenue for future research opportunities. In addition, Kanninen et al (2017) do not mention this difficulty when it comes to setting up a separate service organisation in process industry. It is understandable that companies operating in process industry do not possess similar installed base. Nonetheless, it is still worth researching if they have done something differently.

Overall, it is safe to conclude that literature regarding servitisation has gradually developed over the course of time. As Oliva and Kallenberg (2003) argue when expanding the IB service offering, one should base the service pricing on availability rather than costs, Töytäri et al (2018) take the idea further by suggesting outcome as the basis of service agreements. More importantly, the research surrounding these interlinked phenomena is rather fragmented. Concerning the service-oriented sales remuneration system, Hinterhuber (2008a) asserts that profits instead of sales volume should be the basis for incentives. Kanninen et al (2017), on the other hand, favours sales volume. Hence, it is recommended that future research take a more unifying approach when it comes to the discussion of servitisation as well as its accompanied practical tools including value-based pricing and selling.

Lastly, as Oliva and Kallenberg (2003) conclude that companies should already form a separate service organisation in the early phases of the product-service transition (step 2 out of 4), Kanninen et al (2017) only suggest doing so in the end of the transition (step 5 out of 5). Therefore, the question remains if the product-service transition in these industries is inherently different or if the underlying case companies that form the basis for these research papers have purely implemented things differently. For that reason, future research could then concentrate more on what kind of organisations companies across industries should have in different phases of servitisation.

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