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**CASE STUDY OF INDUSTRIAL SERVICITIZATION AS AN
ORGANIZATION DEVELOPMENT PROCESS**
DIMENSIONS OF INDUSTRIAL SERVICITIZATION – DISCOURSE ANALYSIS ON ANNUAL RE-
PORTS

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ABSTRACT

This study examines how the transitioning process towards a more service-oriented logic has been carried out in four publicly-listed manufacturing companies based on their annual reporting; Kone, KoneCranes, Metso and Wärtsilä. The qualitative comparative case method is applied to analyze these companies in order to find out how far the companies are in the processes of service implementation and how they have reached this point. In this respect, a four-stage model is created to divide the service-implementation process into four distinctive phases; 1.) Product supplier, 2.) Add-on service provider, 3.) Solution supplier and 4.) Performance supplier. This model is further applied to determine how the servitization process has proceeded in case companies during the research period from 2001 to 2011.

Study results suggest that case companies have gone through relatively different service development processes in terms of both chronological lengths and contents of each development stage. Case companies were located in different phases in 2001 as Metso represented a Product Supplier, whereas Wärtsilä and Kone were situated in the Add-on service provider -stage. Only KoneCranes had advanced into the Solution Supplier -phase. All the case companies have ended up to the Solution Supplier -phase in 2011. However, some of the companies seem to share better premises to progress into the last service development phase in the future.

This paper complements the service-related research of manufacturing companies by paying attention especially on the comparative case study method with annual reports as the key source and by establishing the Four-stage service development model that can be further used to assess how companies have progressed in their servitization processes.

KEYWORDS: Service, servitization, service development phases, service development process, manufacturing companies, comparative case study, annual reports.

1 INTRODUCTION

Manufacturers have always offered services for customers, but it is only in recent years when a wide array of industrial firms have begun to consider services as a platform for growth and competitiveness (Jacob & Ulaga 2008: 251). Machine manufacturing stands for a mature industry characterized by a relatively sluggish market growth and technological innovation level (Oliva & Kallenberg 2003: 162). Some of the world's leading companies have recently been altering their strategic focus to compete by offering "solutions" rather than individual products (Brady, Davies & Gann 2008: 360).

Services are often applied to act against *commodization* which refers to a dynamic process eroding the competitive differentiation potential and consequently weakening the organization's financial position (Matthyssens & Vandenbempt 2008: 317). Additionally, servitization strategy is widely considered as a mean for western manufacturers to face-up to the challenges of competitions in lower cost economies (Baines, Lightfoot, Peppard, Johnson, Tiwari & Shehab 2008: 500). Given the current situation in which it is increasingly challenging to implement differentiation strategies as the intense global rivalry puts more pressure on margins and product lifecycles are becoming shorter (Matthyssens et al. 2008: 316), there are several motivators for companies to emphasize the role of services in their business logic; services tend to provide useful knowledge on customers as well as an access to potential customers. Due to the invisible, labour-dependent nature of services, they are hard to imitate, thus creating a sustainable source of competitive advantage. (Oliva et Al. 2003: 160).

Competing with services allows product manufacturers earn the highest margins (Gebauer & Friedli 2005: 317). Services are likely to generate continuous revenue streams throughout the product life cycle (Brady et al. 2006: 361). Services require often fewer assets compared to tangible goods (Wise and Baumgartner 1999: 134). As a strategy service is smart since it provides a stark competitive advantage through differentiation opportunities and through building industry barriers to entry (Mathieu 2001b: 457). Services tend to provide high customer allegiance as well. Thus, customers are demanding constantly more services (Oliva et Al. 2003: 160). Therefore many service scholars think that manufacturers *have to* shift their focus from goods and technology to services (Windahl & Lakemond 2010: 1281) in order to become and stay competitive.

The contextual emphasis of this paper lays strongly on the service development, i.e. service evolution, therefore helping to tackle this gap of the present service literature. More specifically, I want to get insights into how the service development phases have occurred in four case companies based on their annual reporting from 2001 to 2011. The shift from the Product-dominant-logic towards the Service-dominant-logic is one of the burning topics of the current academic research in the field of Industrial Marketing. Despite the encouraging results suggesting that suppliers could benefit from altering their traditional product-centric view (Tuli et al. 2007: 2), the scholarly research investigating the shift from product to services in business life is still at an early stage and more research is urgently needed in this area. (Ulaga et Al. 2008: 249). Consequently, Oliva et al. (2003: 171) state “*further research is necessary to assess the experience and challenges of companies further into the transition process*”. Within the service-related literature only 12 % of the research has concerned the area of *Evolution of the service orientation* (Baines, Lightfoot, Benedettini & Kay 2008: 560, 551).

Despite the steadily rising popularity among the scholars in business studies, there is a solid need for more case studies that reflect in a detailed way on the lessons learnt from innovations in case design and implementation (Buchanan & Bryman 2009: 481). This paper seeks to contribute to the fast evolving case study design by exploring companies as individual cases in a versatile way. Ulaga et al. (2008: 249) argue that a vast part of the literature concerning manufacturers` move toward services is normative (Wise et al. 1999; Oliva et al. 2003) by nature. Rarely articles describe and comment on the cases of few individual companies in a depictive and detailed way; rather they tend to concentrate on forming generalizable frameworks considering whole industries by examining a large number (more than 10) of companies and interviewing multiple company representatives (Reinertz & Kumar 2000). This article analyzes four case companies in a comparative way, thus providing detailed profiles of each company instead of describing phenomena in a wider, for example industry -level.

Given the above, the main focus of this paper can be rephrased in two research questions. Expanding the scope of prior service -related case research, a narrower perspective is adopted by investigating a limited number of case companies. Considering the urgent need for detailed case-studies describing the servitization development processes of manufacturing companies, the first research question is formed as following:

RQ1. *How servitization has proceeded in the case companies from 2001 to 2011?*

One key aim of this study is to find out whether there are differences between the case companies' service development processes. This requires knowledge on the previous, current and potential future service development stages of each company. Thus, the second research question is formulated as:

RQ2. *How the case companies' service development processes differ?*

Answering these questions requires both in-depth theoretical analyze of the central terms and phenomena related to service progress as well as depictive case company descriptions.

Lastly, most case studies conducted in the field of transition from products to services are based on other forms of data than annual reports, typically interviews (Davies, Brady & Hobday 2006; Tuli et al 2007). The present paper has its focus on the annual reports as the key source, hence filling this methodological gap in the literature. The main contribution of this paper lies on findings regarding the case companies' service development phases that are analyzed by using a model that illustrates four servitization steps. This model is developed for this research. In the current literature there are only few models that manage to distinctively depict how the servitization processes have proceeded in case companies, as Oliva et al.'s model (2003) represents one of the best-known efforts to date.

Even though the importance of the service has lately risen to the top of the agenda in many companies, service is not a new invention. As Plato noted: *"We are similarly human beings serving each other, through exchange, for mutual wellbeing."* (Vargo et al. 2011: 181)

2 THEORETICAL BACKGROUND

Servitization is a multi-dimensional concept, for which there can be found various definitions within the existing literature. These definitions are covered later in this chapter. In order to comprehensively understand what servitization means, it is first feasible to introduce the key service-related concepts, such as *service*, *service types*, *solution* and *service agreement* in more detail.

2.1 Definition of servitization

Service

Before further investigating servitization, it is feasible to briefly define the concept of service. Service can be conceptualized as “*process consisting of a series of more or less intangible activities that normally, but not necessarily always, take place in interactions between the customer and service employees and/or physical resources or goods and/or systems of the service provider, which are provided as solutions to customer problems.*” (Grönroos 2007: 52). Also Bain, Lightfoot, Benedettini & Kay (2009: 554) emphasize the importance of intangible assets as they define service as “*an economic activity that does not result in ownership of a tangible asset*”. In contrast to Grönroos (2007: 52), Bain et al (2009: 554) do not take into account the interaction between a customer and provider.

According to Vargo et al. (2008: 254) service is “*a process of using one`s resources for the benefit of and in conjunction with another party - as the fundamental purpose of economic exchange and implies the need for a revised, service-driven framework for all of marketing.*” Hence both Grönroos (2007: 52) and Vargo et al. (2008: 254) regard service as a process. However, Grönroos (2007: 52) puts even more weight on the mutual interaction activity, whereas Vargo et al. (2008: 254) consider service to be a more mandatory necessity by nature.

Service types

There are various service type classifications presented in the literature. Mathieu (2001a: 39) proposes a classification of two sorts of product services; *services supporting the supplier`s product*, such as after-sales service, and *services that support the cus-*

customer's action related to the supplier's product, for instance training services. Respectively, she (Mathieu 2001b: 453) separates also a third sort of service, *Service as a Product* which is independent from the company's goods. Thus, a customer may experience the service without consuming its products. The promising possibilities of the future are particularly related to the services that support customer's actions. Consequently she suggests that managers should facilitate their companies' opportunities to implement these types of services. It is particularly important to pay special attention for relationship management and customization. (Mathieu 2001a: 51).

More traditional service classification is Kotler's (1994: 646-649) idea of *maintenance and repair services*, and *business advisory services* as the third service type. As far as service type classification is further examined, an interesting approach is to divide services based on whether the service *is carried out before, during or after the sale*. It is also possible to distinguish services into *relationship-* or *transaction-based* services. (Mathieu 2001a: 40) Wise et al. (1999: 137-139) distinguish the following service types; *Embedded services* that refer to services which are built into a product, *Comprehensive services* that are not embedded into products and thirdly *Integrated solutions* (combination of products and services as a seamless offering addressing a pressing customer need).

Solution

The concept of *solution* considered from the supplier's facet refers to "*a customized and integrated combination of goods and services for meeting a customer's business needs*" (Tuli et al. 2007: 1). Solution addresses the importance of fulfilling the customer's business needs (Tuli et al. 2007: 2). Sawhney (2006: 369) defines *solution* as "*an integrated combination of products and services customized for a set of customers that allows customers to achieve better outcomes than the sum of individual components*".

Consequently, a customer solution involves three elements; 1.) it is a combination of goods and services; 2.) goods and services are designed and customized to meet the customer expectations; 3.) each good and service must "work with" each other, i.e. form an integrated set of goods and services (Tuli et al. 2007: 3). Solutions always increase the overall value of the solution for the customer (Brady et al. 2006: 362) as solutions can be held as packages that create more value than customers can create for themselves by purchasing only stand-alone products (Galbraith 2002: 194).

Interestingly Brady et al. (2005: 364) came to the following conclusion when trying to define the features of a successful solution provider; *“there is no definitive business model but success depends on the ability to be entrepreneurial, experimental and open-minded when trying to define features of a successful solution provider”*. In order to facilitate themselves as solution suppliers, organizations should learn and renew their structures continually meanwhile delivering the solutions to the customers in order to make the transition (Brady et al. 2008: 365).

In brief, solutions refer to combinations or *bundles* of tangible goods and services sewed together in a way that creates additional value compared to the situation in which these goods or services were offered separately. Solutions are designed to meet the customer`s business needs.

Service agreement

The shift toward service agreements is usually triggered by willingness to better exploit the untapped installed base. The term *installed base* refers to the total number of products currently in use. Once the service organization is in its place, it becomes a fixed cost from the service provider`s point of view as the main driver of profitability is the capacity utilization rate. Established service contracts decrease the variability and unpredictability of the demand concerning the installed capacity, thus enabling higher capacity utilization. (Oliva et al. 2003: 168-169).

Wise et al. (1999: 133) mention that a common feature for many successful companies is their ability to *“move beyond the factory gate to tape into the valuable economic activity that occurs throughout the entire product lifecycle”*. They remind that the installed base has expanded steadily in many industries due to the accumulation of past purchases and ever longer product life spans (Wise et al. 1999: 134), which enables companies to provide their customers with service agreements that control ever larger installed base entities facilitating their customers` operations.

There are various forms in maintenance outsourcing practices available from warranties to service contracts that are agreements between a customer (service recipient) and a service provider. Under these contracts *“parties agreed to be bound by terms and conditions in relation to the maintenance service to be provided and the service price to be paid.”* (Wang 2009: 240). In case of a typical service contract, the agreement tends to stem from a bundle sale or from a need for an organization to outsource its maintenance

activities (Wang 2009: 240). Additionally, there are usually also various maintenance contracts providers available on the market. Thus, service agreements are often offered by not only the Original Equipment Manufacturer (OEM) but one or more other agents too. These service contracts tend to be specified by their prices, repair efficiencies and other related characteristics. (Ding, Lisnianski, Frenkel and Khvatskin 2009: 614).

Also the pricing policy tends to further change when providing service agreements for customers; the way of service pricing should be ultimately changed from depending on the labor work and parts needed every time a service is provided, to a fixed price covering all the services under a certain, agreed period of time (Oliva et al. 2003: 167-168). In addition to the actual useage- and fixed price -based pricing policies, Kohtamäki, Partanen & Möller (2013: 75) separate another pricing approach that has its locust on the value created for the customer; *increase in productivity* and *reduction in costs* represent examples of this sort of pricing logic. However, estimating service agreement`s profitability represents a key challenge since it depends on how accurate the organization is in estimating the failure risks for the equipment. This requires new types of skills within a service organization and also new data gathering capabilities to determine risks better. (Oliva et al. 2003: 169).

There are several motivators to implement service agreements from both contract parties` aspects. Firstly, small maintenance departments may not operate economically, i.e. the scale of operation is too small. Secondly, technological development and expanding legislation particularly in the environmental area, increase workforce training requirements, which cause maintenance to become more costly. Thirdly, an increased operational flexibility can be achieved through service outsourcing as the customer can better concentrate its resources on its core business activities. Manufacturers often have such expertise and equipment for the maintenance operations that the customers do not have. On the other hand the contractor is motivated to offer maintenance agreements because service may represent an important source of income. Also new opportunities may arise if the contractor can sell added value by for instance taking over parts of customers` business risks and other, mostly financial burdens. Hence, the contractor can diversify its offering and may be able to reach higher profits. (Wang 2009: 239-240).

Briefly put, service agreements represent a more comprehensive way to answer to a customer`s service needs compared to settling many specific service contracts. Through a service agreement it is easier to sell “one package” for a customer instead of dividing the offering into pieces. Consequently, service agreements represent an opportunity to

further sell products and offerings for a customer in a long term, whereas customers benefit from these agreements as they can better focus on their core business areas.

Servitization

The existing literature on servitization is relatively fresh and conceptualizing the phenomenon is shaping up rapidly (Barnett, Parry, Saad, Newnes & Goh 2013: 148). As far as *servitization* as a term is concerned, there is no a single, strictly scoped definition available. However, some of the most essential servitization definitions are summarized below in table 1.

Table 1. Servitization definitions in the literature.

Author	Definition of servitization
Baines et al. 2008a: 547	<i>“Servitization is the innovation of an organizations capabilities and processes to shift from selling products to selling integrated products and services that deliver value in use.”</i>
Bandinelli & Gamberi 2012: 87	<i>“Process of creating value by adding services to products.”</i>
Neely 2008: 10	<i>“Servitization involves the innovation of an organisation’s capabilities and processes so that it can better create mutual value through a shift from selling product to selling Product-Service Systems.”</i>
Raddats et al. 2011: 523	<i>“First, companies see more attractive market opportunities from services than tangible products. Second, customers are focusing on core activities, with non-core activities being outsourced in the form of services that can potentially be provided by their product suppliers. Third, many PCBs (product-centric companies) have developed highly valued services which contribute the most customer value within their portfolios of resources and capabilities. However, this increasing focus on services (or “servitization”, Vandermerwe and Rada 1988) has created new challenges for PCBs.”</i>
Vandermerwe et al. 1988: 314	<i>“The increased offering of fuller market packages or “bundles” of customer focused combinations of goods, services, support, self-service and knowledge in order to add value to core product offerings”.</i>

Wise & Baumgartner 1999: 133	"Go downstream towards the customer."
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There has been raised a warning that the concepts of servitization and product-service system, should not be confused (Baines et al. 2008a: 563). PSS stands for a special case of servitization (Bandinelli et al. 2012: 88) in which most contributors have been academics from the environmental and social sciences (Baines et al. 2008b: 497). Therefore definitions that are tightly connected to product-service systems (PSS), were excluded from table 1.

Vandermerwe et al.'s definition (1988: 314) of servitization is generally regarded as one of the first servitization definitions known in the literature (Baines et al. 2008a: 554); this definition clearly stresses the *value adding* aspect of servitization. Neely (2008: 10) partly relies on Vandermerwe et al.'s idea of services to be offered together with tangible products as a *bundle*. However, Vandermerwe et al. further add to this requirement the demand of *expanding supply* of combinations of services and goods, hence offering more accurate definition; not only there should occur a feasible combination of products and services, but this supply should increase instead of diminishing in size. (Vandermerwe et al. 1988: 314).

Another approach is to consider servitization as an utterly direct process. An example of this view is represented by Raddats et al. (2011: 523) who simply link servitization tightly to the increasing concentration on services. This definition is quite homogenous with Bandinelli et al.'s (2012: 217) view as they also discuss adding services to products. Baines et al. (2008a: 547) consider servitization as a transformation process from offering only tangible products to providing clients with integrated solutions containing both products and services. These four definitions are quite simplistic; accordingly, the inherent message of servitization is basically equal to *investing more in services* and giving services more emphasis in general.

However, Bandinelli et al. (2012: 217), Baines et al. (2008a: 547) and Neely (2008:10) all highlight the role of *value addition*. Neely's (2008:10) concept of servitization includes adding services into product-portfolio and the requirement of value addition as well. Nevertheless, Neely sets his focus on the servitization process to building *organizational resources* in such way that allows mutual value creating through servitization. Another notion with Neely's (2008: 10) definition refers to the idea of processes being

better in terms of cultivating the value compared to the traditional processes in which solely goods are exchanged. In contrast to the definitions discussed before, Wise et al.'s (1999: 133) idea of companies going downstream in a value chain emphasizes the *importance of customers* from a company's aspect. The use of term *customer* instead of *value-addition* stays for a noteworthy divergence compared to the other value-specific definitions illustrated in table 1.

In summary, earlier servitization definition attempts concentrate on combining services with goods in a way that adds value. Eventually, also expanded definitions involving for instance organization's structure and customer bonding, have been adopted in the literature. Despite the differences between servitization definitions, their mutual message seem to *stress the importance of services*; in other words, companies are ought to concentrate intensively on services in their business logic.

2.3. Requirements, processes and outcomes of servitization

In order to comprehensively analyze the company cases from the servitization perspective, a holistic overview of the key requirements, processes, mechanisms and outcomes of the servitization is presented in this chapter. Thus, a process standpoint approach is applied to specifically open these servitization -related features.

2.3.1. Requirements of servitization

Lifecycle thinking

Services should be provided for an installed base over its complete life cycle (Oliva et al. 2003: 163). This view is echoed in practice as manufacturing companies are increasingly expanding their activities to the entire lifecycle of the physical goods (P.P Wang, Ming, Kong, K. Wang & Wu 2011: 6864)

Ideally, a manufacturer can gather product lifecycle data because it provides spares and maintenance services in the product, e.g. engine, lifecycle. This way a manufacturer has direct access to the asset, and this data can be further used to improve engine efficiency and asset utilization. Thus a manufacturer can receive both the business and environmental benefits. (Wang et al. 2011: 6863-6864).

In this context, the concept of *value stream* is used to identify all the value-adding activities involved in producing, delivering and using a product to provide services for end-customers (Davies 2004: 729); “*Delivering integrated solutions to meet customer needs involves specifying, designing, constructing, financing, maintaining, supporting and operating a system/facility throughout its life cycle* (Brady, Davies & Gann 2005: 572). Providing services through the life cycle enables a continuous revenue stream in contrast to the peaks and troughs of the investment cycle for high-cost capital products. (Brady et al. 2005: 572-573)

Oliva et al. (2003: 171) note, that based on their study findings companies aiming to implement *advanced* services into their offering usually failed if they had not developed prior capabilities in the field of *basic* product-oriented services. Hence, companies should gain sufficient control over basic services before moving into more complex services.

Value creation

When referring to the concept of *value*, it is feasible to define it in very basic means; “*Value is what customers are willing to pay*” (Porter 1985: 3). Mathysens et al (2008: 318) agree with this view as they further add “*value is traditionally recognized as the value received by the customer.*” Payne et al. (2008: 84) refer to a more intense and deeper value building process which can occur for example as following; “*In order to co-create value the customer and supplier can engage in the activity of co-design of products.*” This idea represents the logic of creating more value by regarding the customer as a co-producer of value. This view is strongly echoed by Vargo et al. (2011: 182) as they emphasize that the *value is always co-created* when applying the service-dominant business logic. Hence, customers create value instead of destroying it. The latter view of considering customers as destroyers of value, is inherently involved in the more traditional industrial view. (Ramirez 1999: 50-51).

Creating value for a customer begins by realizing comprehensively the customer`s value creating processes. This is how the supplier is able to design its own processes to align with customer`s processes. (Payne, Storbacka & Frow 2008: 88). Firms should change their mindsets from *producing something* to the process of *assisting clients in their value-creation processes* (Vargo et al. 2008: 258). Consequently, enterprises should co-create value with customers and other partners involved instead of considering value as something manufactured and sold; “*value is always uniquely and phenomenological*

determined by the beneficiary". This idea is echoed also by Wise et al. (1999: 134) as they note that in order to fully exploit the value of moving downstream toward end-customers, companies have to expand their definition of value chain by shifting their focus from the operational excellence to the customer loyalty.

Theoharakis et al. (2009: 4) point out that companies are ought to *understand customer needs* in order to improve their service performance and innovativeness. In addition to paying attention to only current needs, Tuli et al. (2007: 7) assert that customer requirement definition must involve also delineating the future needs that can be taken into account when developing future products and services.

As far as supplier-customer relationships are further concerned, Mathieu (2001a: 51) states that a favorable connection between a customer and a supplier is needed to enhance the shift to the service-dominant logic. Accordingly, this favorable connection occurs "*as a critical alchemy composed not only of a cultural and cognitive proximity, but also of the supplier's capacity and willingness to come up fully to the specificity of the customer's expectations*". This process can be supported by trained personnel that possess both technical and relational skills. Consequently, servitization sets *new standards for the personnel*. From this premise companies may have to acquire new skills and people along the servitization process (Wise et al. 1999: 141); legal skills, information management, innovation management and portfolio management stand for examples of new skills required from successful solution providers (Brady et al. 2006: 364).

Also employee satisfaction seems to impact positively on the service responsiveness of a company (Theoharakis, Sajtos & Hooley 2009: 3). Especially culture-focused employees are critical for service success, whilst performance in product markets depends more on an organizational culture stressing technology innovations and product value (Fang, Palmatier & Steenkamp (2008: 3). This means that also rewards can be exploited differently when changing the business logic toward servitization; for instance, rewards should be particularly targeted to such relationship managers that save the customer's business (Galbraith 2002: 196).

In brief, whole value creation process should be altered from the traditional product-centric view to beginning to think from the customer's point of view as the value has shifted towards the end-customer (Wise et al. 1999: 136). This not only necessitates a

fully understanding the customer needs, but also sets new sorts of demands for the whole personnel.

Organizational structures

Servitization requires changes in organizational structures as well since service and product manufacturing businesses necessitate different *organizational cultures and structures* (Davies et al. 2006: 43). Companies should create new types of organizations that are reconfigurable around both customer's present and future needs. There is a need to add customer-centric units to the more traditional product-centric units (Galbraith 2002: 205), which may cause a conflict. If this conflict is not resolved, it can easily lead to a loss of competitiveness. Hence, not only physical isolation is enough, but also cultural shift is needed; Mathieu (2001b: 459) cites that *only* a cultural transition may thrust the manufacturing company out of its traditional business view in order to be able to implement more proactive services.

Service activities should be physically separated from other, closely manufacturing-related activities within a company. In order to fully exploit the market opportunity of services, companies are suggested to isolate their service operations from the manufacturing and product placement operations (Oliva et al. 2003: 171). Gebauer, Fleisch & Friedli (2006: 379) advocate independent service organizations to be established to enhance service-based growth. This idea is in line with Fang et al.'s (2008: 12) view; in order to reduce organizational conflict when transferring operations towards services, product and service groups should be distinctively separated. Service organizations should establish *new networks to interact with new distribution channels* too. Thus, service organizations are intended to develop different sets of contacts within the end-user organizations. (Oliva et al. 2003: 169).

Sheth et al. (2009: 31) remind that specific changes are required in a company's *sales organization*. They see two alternative directions to which sales organizations in industrial companies can evolve. First, a developed and more sophisticated use of technology will reduce some traditional sales functions. Second, the most important customers will witness an enhancement in terms of customer-contact intensity, which leads to an expansion of customer-focused sales organizations. Thus, organizations have recently begun to concentrate more on identifying and retaining the long-term customers as it is more profitable to maintain and satisfy the current customers than to renew customer base constantly (Reinartz et al. 2003: 77). This view is echoed by Galbraith (2002: 196)

who suggests focusing on the most profitable and loyal customers when shifting from a product-centric company to a customer-centric one. Galbraith (2002: 204) further refines the new logic of sales organization by noting that companies have to mobilize *“teams to capture opportunities for solutions sales and their implementation when capture is successful”*. Despite the adjustments needed for sales organizations, Tuli et al (2007: 13) distinctively recommend different sales and business development functions remain *“on the same page”* for all the processes to be able to deliver an effective solution for a customer.

To sum up, more service-oriented business logic sets new requirements for the organizational structure of a manufacturer company as customer-centric units should be included in the organization. Service activities have to be distinguished from producing activities, also in the levels of organizational culture and selling operations. This view is further nurtured as Wise et al. (1999: 135) emphasize that *“manufacturers should view product sale as an opportunity to open doors for the provision of the future services”*.

2.3.2. Processes and mechanisms of servitization

Service strategy

Firms need to align internally their organizational factors, such as strategy and structure, to fit with the external environment (Raddats et al. 2010: 524). This is consistent with the central logic of separating service operations from manufacturing operations. The more the service offering is linked to the customer`s core business processes, the more dependent the customer becomes on the supplier (Windahl et al. 2010: 1289). In other words, the more effective service transition strategies are at strengthening the value, the better the service offering is connected to the firm`s core business (Fang et al. 2008: 1, 11).

Failing in deploying a successful service strategy is one of the main hurdles to overcome when carrying out servitization even if the company had already realized the market potential and had decided to enter the service market (Oliva et al. 2003: 161). Thus, a reasonable service strategy equipped with a succeeded implementation is one of the main servitization processes postulated.

Single supplier approach

Customers are more and more seeking for a global and integrated offering and they have become more reluctant to operate with multiple suppliers (Mathieu 2001b: 458). Consequently, a supplier should be able to provide services that are closely related to customer`s core business and a supplier should organize its offering and operations in the way that tempts clients to use only this particular supplier. Also customer`s switching costs increase when multiple relationships are needed compared to collaboration with a single partner (Reinartz et al. (2003: 81).

When it comes to attracting a customer to operate with one manufacturer exclusively, the focal advantage that manufacturer companies gain over other maintenance organizations is their cumulative experience in maintaining their own equipment. Also the opportunity to exploit their own product development and systems integration knowledge to deliver better maintenance concepts and practices, may constitute a potential advantage over non-manufacturing companies. (Oliva et al. 2003: 169). Hence, manufacturers seem to benefit from being able to retain a large section of supply chain; *“Manufacturers who have embraced the servitization trend tend to retain capabilities in design and production, and do so because this benefits their speed, effectiveness and costs of supporting assets on advanced services contracts.”* (Baines, Lightfoot & Smart 2011: 951)

Close customer interaction is also linked to single supplier -based ideology through facilitated learning and more intensive interaction between a supplier and a customer. In this context, customer interaction *“refers to the duration for which customer interactors (e.g., sales personnel, support staff) are assigned to a customer”*. Greater stability allows interactive suppliers to develop stronger relationships or “social capital” with customer personnel. (Tuli et al. 2007: 10). Ballantyne has made (2004: 117) notions regarding the value of a dialog as the main requirement needed for companies to fully exploit the opportunities of services; a client can engage in a dialog with its sole supplier during the product design and delivery phases. This way the interaction process lasts for a longer time compared to interacting with various suppliers as stakeholders. Encouraging customers to participate in a dialogue with the supplier can be carried out in multiple ways. Involving customers, for example, in product design and delivery phases, enables a more intense co-operative relationship in a long term.

As far as solutions are concerned, being consistent with the service-dominant logic necessitates that delivering solutions should be seen as an ongoing relationship instead of “one-off” -project. Respectively, single supplier means that a supplier provides a complete solution itself. (Tuli et al 2007: 7, 14). This is in line with single supplier -approach, as one supplier can better provide a long-term interactive relationship with its customer compared to multiple separate suppliers. In brief, single supplier -approach is a tangible part of more service-dominant business logic.

Customization

The premise of considering a customer as a value co-producer is further refined by Mathieu (2001a: 51) who emphasizes the importance of customers` possibilities to customize the services. “*Customization involves designing, modifying, or selecting products to fit into a customer’s environment*” (Tuli, Kohli, & Bharadwaj 2007: 7). In more detail, customization can contain the following dimensions; “*physical changes in the product, pricing adaptation, service adaptation, positioning message adaptation, or channel adaptation*” (Sawhney 1998: 60). However, Davies et al. (2006: 45) remind that success depends much on the right balance between customization and standardization, which refers to the assertion of successful companies being capable of offering standardized services and service bundles (packages) to a customer.

Interestingly, the customization process can be approached vice versa, i.e. it may be also customer that adapts itself according to a supplier. In other words, the process of customization can be very collaborative and interactive. Tuli et al. (2007: 11) find this customer`s role rather essential when it comes to the succeeded customization as they note that solution effectiveness depends not only on supplier -related variables, but also customer -related ones; “*Customer adaptiveness refers to the extent to which a customer is willing to modify its routines and processes to accommodate a supplier`s products*”. Thus, if a customer is motivated to adapt, less product modification will be needed, which enhances product customization and intergration (Tuli 2007: 12).

In summary, customized elements allow companies to effectively localize the firms` offering according to local customer preferences and country-specific conditions (Sawhney 1998: 60). Customization can occur between a supplier a customer and vice versa and in multiple levels from small pricing adaptations all the way the physical changes in the end product. From servitization`s stand point, customization often refers to tailoring services and products according to a customer`s specific needs.

Profit measuring

It may be challenging to estimate quantitative impacts of servitization. In particular, assessing solutions is especially demanding; the larger the scale of a solution, the more complicated is it to measure the performance and accountability. (Galbraith 2002: 196). One feasible way to identify firm's progress in implementing its service strategy is to apply the portion of a company's total sales revenue resulting from the service sales (Fang et al. 2008: 1), thus this measure is used in the Results section of this paper to assess the servitization processes of the case companies. Another tool to assess servitization success is to pay increasingly attention to *customer satisfaction*. Also *lifetime value of a customer* and *customer retention rate* are suggested to be used as new ways to measure overall performance of an organization. (Galbraith 2002: 196).

A firm initiating a service transition process usually starts with a dormant service ratio and gains a higher level of service content over time. Often there are misalignments in terms of metrics exerted to evaluate the value of services (Payne et al. 2008: 88). This is coherent with Fang et al.'s (2008: 4) finding; when linking the service ratio to any measure of a company's annual performance (such as sales or cash flow), many performance measures may not detect the true impact of the service transition strategy.

In brief, altering general attitude deeper along the value chain is not enough since manufacturing companies need to redefine also the ways they measure profits (Wise et al. 1999: 135). No more can a product margin be the main yardstick because product's profitability does not determine the profitability of services. Instead, such measures as service share of total sales, customer satisfaction and customer retention rate are suggested to be applied.

2.3.3. Outcomes of servitization

A higher customer allegiance represents a key advantage of services (Oliva et al. 2003: 160). Customers tend to be especially loyal towards the seller when customers perceive higher relatedness between the product and the service offering available (Fang et al. 2008: 9), which further supports the positive contribution of services being firmly linked to a company's core businesses.

Being coherent with the single-supplier approach, Reinartz et al. (2003: 81) found that when customers buy more, more frequently, and more across different categories, the relationship between the customers and their vendors became more durable. Additionally, a supplier's ability to develop services that support a client's actions is positively linked to the relationships formed between the suppliers and their clients (Mathieu (2001a: 51). A more intensive customer focus seems to have a positive impact on the general organizational innovativeness as well. (Theoharakis et al. 2009: 4).

Services tend to turn a firm's offering more intangible, more likely to coproduction, harder to standardize, more knowledge-intensive and more demanding of direct sales contact compared to tangible products. Also enhanced pricing power and improved resistance on outsourcing represent key benefits characterized by services. Services allow to turn a company's total offering to more unique, more challenging to imitate, more valuable for customers and services tend to provide more stable cash flow compared to product sales. (Fang et al. 2008: 2). Services seem to necessitate fewer assets compared to tangible goods as well (Wise et al. 1999: 134).

However, not all the impacts of more service-dominant business logic are positive; spreading the company's resources between the current business and new businesses can affect negatively the firm's overall financial performance and market valuation, at least in the short run. This is understandable when taking into account all the new skills and capabilities that are needed for the new business. (Fang et al. 2008: 3). The potential performance decline when implementing a more service-dominant business logic is referred as "*Servitization paradox*" (Kastalli & Van Looy 2013: 169). Furthermore, as an organization is altering from traditional manufacturing structure towards a more service-oriented structure, there might appear in-house resistance from different units (Davies et al. 2006: 47).

Shortly put, better service activities should lead to higher customer satisfaction and allegiance, thus eventually to improved overall financial performance of an organization (Theoharakis et al. 2009: 5). Even though implementing more service-oriented business logic contributes to stronger supplier-customer relationships and more unique offering with better margins, there may appear some negative impacts in the form of change-resistance. Also the transitioning process often requires some time before the financial performance begins to increase due to increased emphasis on services.

2.4 Service development

As the concept of servitization has been opened in the theoretical level, it is expedient to consider how this particular phenomenon is initiated and how it typically proceeds from the industrial manufacturing business perspective. This development process will be depicted by forming a four-step framework (*Four stages of the Service-Development Process*) that illustrates the stages of servitization development. Then the development process will be described and examined in detail with each case company. Finally, the development paths and the current states of the case companies are compared and analyzed.

2.5 Four Stages of Service Development

There are relatively few distinctive models that successfully define the servitization development phases with precise qualitatively specified boundaries existing in the literature. Oliva et al.'s (2003) four stage model and Reinertz et al.'s (2003) contribution in the form of their framework related to profitable lifetime duration present some more accurately defined service development phase modeling efforts. However, Reinertz et al.'s framework has its locust on profitability, thus it fails to offer a holistic picture of servitization *per se*.

Oliva et al. present in (2003: 164-166) "*Process model for developing Installed-Base service capabilities*" -model their four stages required in the transition from product manufacturer to service provider. Yet, Oliva et al. (2003: 164-166) situate their phases quite differently compared to the later discussed Service-Development framework established in this paper; in their first stage companies typically engage in the following actions; moving services under one roof, monitor the effectiveness of services offered and adding services to support the quality initiative. Their second stage implies an opportunity to exploit services financially and establish an organization's structures accordingly.

Oliva et al.'s third stage suggests to "*change the focus of customer interactions from transaction- to relationship-based*"; services are often priced in terms of response time and operational availability and the move towards maintenance contracts is occurred. (Oliva et Al. 2003: 167-169). Their last stage, *Taking over the end-user's operations*, includes gaining the control of the customer's service or operational operating organiza-

tion. This is mostly an uncharted territory for most manufacturers and in Oliva et al.'s study (2003: 169) no organization was moved into this area.

Also Vandermerwe & Rada (1988) and Salkari (2004) have contributed to the servitization phase research. However, these modeling efforts are more general theoretical conceptualizations by their inherent nature instead of being capable of exactly analyzing and describe a limited number of manufacturing companies' servitization paths. Vice versa, Penttinen & Palmer's (2007) effort to determine the servitization path of elevator-manufacturer Kone focused on this single company, thus not being feasible to be applied with multiple case companies operating in different industries within manufacturing field. From this premise there was raised a need for a new service phase model; Consequently, the *Four stages of the Service-Development Process*, will be presented now.

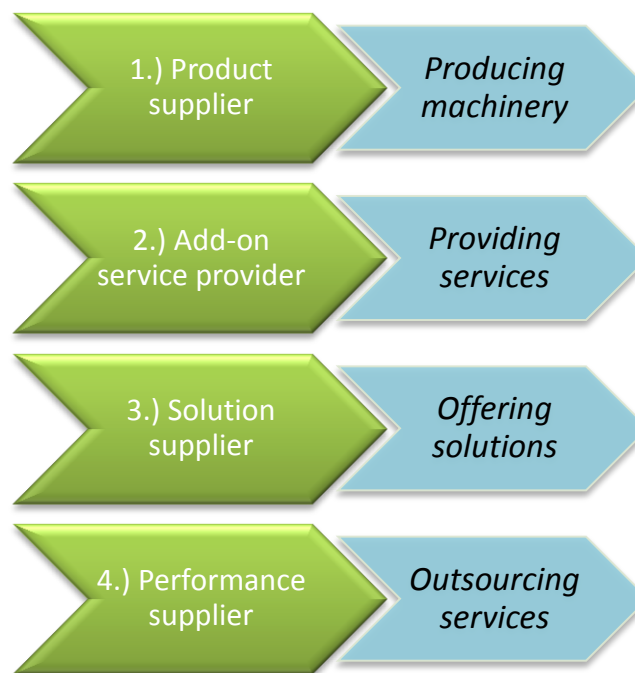


Figure 1. Four stages of the Service-Development Process.

The four distinctive phases visualizing the service development of a manufacturing company, are shown in figure 1. This framework (*Four stages of the Service-Development Process*) is later used when analyzing the service development trajectories of each case company.

2.5.1. Product supplier

In contrast to Oliva et al.'s model's (2003: 164-166) first phase, in which services were already actively added to products, the focus is solely on products in the first phase of the *Four stages of the Service-Development Process*. Consequently, this means neglecting services as a seriously taken source of competitiveness and future growth. Proceeding into the next level would require manufacturers to expand their definition of value chain and shift their focus from operational excellence to customer loyalty in order to capture value downstream. To be able to advance from this initial stage, manufacturers should view product sale as a mean to access the provision of the future services (Wise et al. 1999: 134-135).

Resources have been traditionally seen as *operand* (tangible such as natural resources), but service-dominant logic postulates to view resources as *operant* (intangible such as knowledge and skills) ones (Vargo et al. 2008: 258). Operand resources require some action to be performed in order to be valuable, whereas operant resources are used to act directly (Vargo et al. 2011: 184). In the *Product supplier* -phase, resources are regarded purely as operand by their nature as the business focus is on tangible resources.

Customer-value creation process should not be viewed from old-fashioned "engineer" perspective (as is the case in the *Product supplier* -phase), but "as a dynamic, interactive, non-linear, and often unconscious process" (Payne et al. 2008: 86). Also Brady et al. (2006: 362) suggest solution-providers to fully "understand how value is created throughout the eyes of the customer". In this first service development phase, however, the more conventional product- and engineering centric view is amply supported by both management and operational level of the company instead of considering customer's aspect as the key premise of business logics. Therefore management should internalize that the core of recognizing customer processes rests with the demand to develop a true understanding of where a supplier's offering fits with customer's activities. R & D, sales activities and after-sale efforts are typically aligned with only the supplier's aspect in the *Product supplier* -phase, thus differing it from the more advanced development stages.

In summary, services are seen as mandatory supplement to tangible products instead of an opportunity to sell more to the customer (Wise et al. (1999: 135) in this first service development phase. Services offered in this phase are very basic in their nature and their portion of the total sales is modest as a company initiating service transition process

usually starts with a dormant service ratio and achieves a higher level of service content over time (Payne et al. 2008: 88).

2.5.2. Add-on service provider

According to Oliva et al.'s model (2003: 164-166) companies typically engage in the following actions in the second development phase; firms change services under one roof, monitor the effectiveness of services offered and add services to support the quality initiative. Often the transition into this stage is triggered by the consumer satisfaction indicators leading to desire to improve the quality, efficiency and delivery time of the services. Usually managers realize for the first time the size of the service market available. (Oliva et al. 2003: 165-166). These notions fit well to the *Add-on service provider* -stage since Oliva et al.'s (2003: 164-166) second development phase is chronically similarly situated with the correspondent development phase of the present study.

A supplier manufacturing company can leverage its knowledge and resources accumulated from manufacturing products to the service extension (Fang et al. 2008: 2), which happens in this second service development phase as the service portion of total sales begins to fundamentally increase. A supplier's work related to updating its service offering never ends since the aim is not to just to make the product work, but to enable the customer fully utilize different processes, actions and strategies associated with the product provided by the supplier (Mathieu (2001a: 40).

The service types particularly actively implemented in this service development phase are both Embedded and Comprehensive services. *Embedded services* represent services that are built into a product, whilst *Comprehensive services* stand for added services that are not embedded into products (Wise et al. 1999: 137-139). When proceeding in the servitization, the need for organizational changes is risen. The most successful firms tend to run their service organizations as profit centers (or discrete business-units) with profit and loss responsibility (Oliva et al. 2003: 166-167). Thus, an active effort to establish distinctive service sales units is witnessed in this phase.

After deciding to establish a distinctive service unit within an organization, firms tend to start enlarge their installed base service market either by expanding the current service offering to other product-centered services, or by acquiring additional installed-base, hence becoming the service supplier for third party equipment. Customers are also

concentrating more on core activities with non-core activities being outsourced and undertaken by the suppliers (Raddats et al. 2010: 523). Fang et al. (2008: 12) refer to the same phenomenon by adding outsourcing as a possibility to align also the pricing policies; in order to gain a higher service ratio, a supplier can acquire existing service businesses and/or it can price its current services more aggressively.

Briefly, in the *Add-on service provider* -phase, a supplier begins to actively focus on the service offering. The whole business logic of a manufacturing company has begun to alter from the previously churned strong product-dominance to focusing more on services as an inherent part of the total offering for a customer. There will appear a need to expand the installed base. Yet, the service portfolio is still rather limited being restricted to mostly add-on services instead of total solutions, but in contrast to the previous phase, there is a strong will to better exploit the opportunities related to services.

2.5.3. Solution supplier

Interestingly, manufacturing suppliers tend to more often have a product-centric view towards customer solutions compared to their customers, which indicates that offering solutions allows manufacturing companies to gain an even more intense differentiation advantage over their rival manufacturing suppliers when progressing further in the servitization process. (Tuli et al 2007: 2)

Even though various manufacturers provide technical or professional services as a part of their pre-sale efforts, placing the locust of the offering on the user`s end process is equivalent to moving the emphasis of the business from product manufacturer to solution provider. Simultaneously, this process means renewing services to support and further improve the utilization and effectiveness of the installed base. The focal requirement and in this third stage, is to provide services for the installed base over its *complete lifecycle*. (Oliva et al. 2003: 169)

As previously discussed, there are many definitions for a solution. For instance, Sawhney (2006: 369) defines a solution as “*an integrated combination of products and services customized for a set of customers that allows customers to achieve better outcomes that the sum of individual components*”. However, the mutual feature for all key definitions is the importance of fulfilling the customer`s business needs (Tuli et al. 2007: 2). For short, solutions are packages that create more value than customers can

create for themselves by purchasing only stand-alone products (Galbraith 2002: 194). In this third service development phase, manufacturing companies prepare themselves to actively offer solutions in a repeatable way for their customers.

Thus, the success rate of the solution implementation depends on how quickly and easily a company can move from unique to *repeatable solutions delivery*. The suggested strategy is to devise solutions for lead customers and then adjust and replicate them for future customers at even lower and potentially ever lowering costs. (Davies et al. 2006: 45). Therefore the vanguard companies are discovering an ample competitive advantage in their increasing ability to rapidly convert the knowledge achieved from the previous projects into reusable components (Davies et al. 2006: 47).

However, the eligible customer groups are usually quite different compared to which customer groups were regarded as potential ones in the previous service development phases as the target is not to gain the largest share of clients, but to gain the starkest relationships with the most profitable clients; “*By earning their loyalty, a manufacturer can become their preferred supplier of services throughout the product life span*”. (Wise et al. 1999: 136)

In brief, the thrust to better exploit the installed base and the potential of servitization has attracted suppliers to *actively offer solutions* for their customers. Solutions are such combinations of services and products that answer to a customer`s business needs. Thus, the total value is higher than it would have been by just mixing products and services together. The requirement of being able to provide solutions in a *repeatable* way, is characteristic for this service development phase. In contrast to the *Add-on service supplier* -phase, manufacturing companies have expanded the concept of installed base to involve the *whole product life span*.

2.5.4. Performance supplier

Suppliers selling performance instead of products and services, even if they were bundled in the form of solutions, represents the most advanced phase of *Four stages of the Service-Development Process* -framework. Oliva et. al.`s (2003: 169) framework`s last phase refers to taking the control of the customer`s service or operational operating organization. In contrast to this, the last stage of the *Four Service Development phases* -

framework does not contain this dimension at all but its focus lies on *performance selling*.

Performance-based contracting (PBC) concentrates solely on the system performance outcome. Performance-based agreements are reshaping rapidly the traditional after-sales service logic. This new contracting method is often referred as '*power by the hour*' in commercial airline industry; "*Instead of paying for spare parts, labours and other related costs, under a PBC agreement the customer actually buys the system performance from the service supplier*" (Jin & Wang 2012: 1467). By replacing conventional, material-based agreements, performance-based contracts ensure high-reliability outcome, simultaneously reducing the cost of ownership. (Jin & Wang 2012: 1467)

3 DATA AND METHODOLOGY

The focus of this chapter lies on explaining the methodological tools chosen for this study. In this context, also the main reasons and limitations concerning these choices are briefly covered. In addition, the reliability and validity are discussed.

3.1 Research method

The present study is conducted as a qualitative multiple case study consisting of analysis of case companies. Forming theory from case studies is a research strategy which involves applying one or more cases to build theoretical constructs, propositions and midrange theory from case-derived evidence (Eisenhardt & Gaebner 2007: 25). Case study method stands for a distinctive form of empirical inquiry that “*investigates a contemporary phenomenon in depth within its real-life context, in particular when the boundaries between the phenomenon and context are not clearly evident.*” (Yin 2009: 18). Case studies are increasingly popular because they represent one of the most feasible linkages from abundant, qualitative evidence to mainstream deductive research (Eisenhardt et al. 2007: 25).

The particular approach is especially beneficial when assessing contemporary events (Yin 2009: 11). Since the four case companies represent current examples of business life transition processes in a rather theoretically incomplete context, i.e. *servitization development environment*, this study method is particularly suitable for the present paper. The choice of this research methodology is largely influenced by the service progress process perspective taken.

In order to analyze case study evidence, Yin (2009: 131) proposes four different analytical strategies from which the *Developing a description* is applied in this research; the idea is to generate a *descriptive framework* for organizing the case study. In this respect, the present study utilizes the *Four stages of the Service-Development* framework as the basis of analyzes and as the tool to reflect the service development stages of each case company accordingly.

3.2. Case-selection and sample

Case companies are Finnish, publicly listed (Nasdaq OMX Nordic) and operate in manufacturing industry. Their average total net sales (2011) is 4,49 million € and the average employment (2011) is 24 358. (Orbis Database 2012). The data is gathered from the annual reports available on the Internet apart from some of the financial data that is collected from Orbis Database. The research horizon is from 2001 to 2011, i.e. 10 years. However, in some particularly informative occasions, also longer time spans are applied when examining and commenting on the case companies' service development processes.

Theoretical sampling, instead of random or stratified sampling, is an appropriate method when the purpose of the research is to build theory, not only test it. Theoretical sampling means that cases are selected because they are especially suitable for illuminating and extending relationships and logic within constructs. (Eisenhardt et al. 2007: 27). Case companies are *Kone*, *KoneCranes*, *Metso* and *Wärtsilä*, thus the sample size is four. Internal validity is at fairly good level because using multiple companies increases the credibility due to the intensive analytical comparison carried out between the cases. Since this study was conducted as a part of Future Industrial Services research consortium (FUTIS), also the case companies were selected because they participate in the FUTIS that involves 19 companies and 9 research institutions. FUTIS is coordinated by the FIMECC and funded by Tekes and it focuses on industrial service innovation, studying and devising industrial service mindset, service operation and service technologies. Selected firms participate to FUTIS consortium between 2011 and 2015.

These companies are also selected because they are important, stock-listed companies that have long and well-known histories. Therefore there is a lot of valid, public data available. Annual reports are published on the each company's Internet pages allowing a feasible and accurate comparison to be carried out between the companies. If a sample size is too large, there is a risk of reporting problems due to the necessity to balance cross-case summaries with rich quotes. The suggested practice is to present summaries of individual cases and then analyze them (e.g. Hyder & Eriksson 2005). This technique is particularly useful for a *small number of cases* (Beverland & Lindgreen 2010: 61), thus it is applied in the present study.

There are six plausible sources for a case study; *Documents*, *Archival records*, *Interviews*, *Direct observations*, *Participant observations* and *Physical artifacts*. Documents

are typically stable, unobtrusive and provide a broad coverage as a long span of time and many events. (Yin 2009: 102). Annual reports represent *Document* as a source type and form the key source of the research material in this paper. However, there are some weaknesses in applying documents as a source; reporting bias reflects the (unknown) bias of author, which diminishes internal validity. Since the inherent purpose of this study is to examine how servitization has progressed based on the case companies' annual reports, other sources were purposely outcluded. However, the financial data from Orbis database verifies the economic validity of the study as it was critically compared to the data existing in annual reports.

Accessibility and retrievability suggest to which extent documents are difficult to access and find (Yin 2009: 102). In this paper accessibility and retrievability are in high level because annual reports are publicly available and represent official documents of the companies. Nonetheless, reporting bias stands for a minor challenge for this paper as the author(s) of each annual report remain anonymous and they arguably prioritized different issues. It remains also unfamiliar whether the authors were somehow directed during the writing processes or not.

3.3. Data collection process

Data collection consists of following four phases. First, the suggested tool to analyticaly process the data within a case study method is forming a matrix of categories and placing the evidence into categories according to its context (Yin 2009: 129). This logic was obeyed when the essential data of annual reports was collected; the service-related quotes were preliminary gathered from each annual report, which stays for the first data collection step. Secondly, the quotes were divided under the key themes of servitization according to the relevance of their contexts (see Appendix 3. Servitization key themes of annual reports).

Thirdly, the key theme groups provided with the relevant quotes were placed under the four stages of *Four stages of the Service-Development Process* framework (see Figure 1. Four stages of the Service-Development Process), thus comprising a chronologically advancing document describing the service development of each company. Feeding information in a chronological order is a recommended tool to deal with the data examined through a case study method (Yin 2009: 129).

Lastly, the quotes considered as the most vital and depictive in terms of their contents (see Appendix 3. Servitization key themes of annual reports), were exerted in the later analyses. Since the data gathering process was undertaken similarly with all the case companies, the reliability is increased. The overall reliability is rather high in the present paper, albeit it was inevitably affected by the subjectivity of selecting quotes as was discussed previously in the *Multiple cases and Cross-case analysis* section.

Process of analysis

Cross-case synthesis fits specifically to the analyses of multiple cases (Yin 2009: 156). This technique is particularly relevant if the sample consists of at least two cases, in this occasion four company cases. According to Yin (2008: 157), analysis is likely to be more robust compared to single-case study, which is echoed by Eisenhardt et al. (2008: 27) as they emphasize that theory building from multiple cases usually yields more robust and testable theory than a single-case research. When it comes to the structure of this study, all the companies are analyzed in the *Cross-case analysis* -section after the *Within-Case analysis* -section. This is consistent with the research questions` contextual contribution.

It is possible to conduct a cross-case analysis on two ways; after each case, a study is performed, as is the case with this paper, and as independent research studies. A cross-case analysis enables investigator to draw cross-case conclusions; it is possible to ponder whether different cases share some similarities and deserve to be regarded as instances of the same “type” of the general case. (Yin 2009: 157-160). Theory tends to be better grounded, more generalizable and equal when it is based on multiple case experiments. Multiple case studies comparisons clarify whether a finding is an exceptionally characteristic of an individual case or a commonly occurring phenomenon. Compared to a single case approach, it is easier to define precise definitions and the appropriate amount of construct abstraction from multiple cases. Multiple cases also allow a wider exploration of research questions and theoretical elaboration. (Eisenhardt et al. 2007: 27).

This paper is an inductive study. Inductive means that observations are used to form theory, in this case the contribution takes its place in the form of the new service development model and case-company-specific outcomes related to it. Eisenhardt et al. (2007: 25) remind that it is central to use cases as the basis from which to create theory inductively. The theory is situated in and among constructs within and across cases and

their underpinning logical arguments. Each case is a distinct experiment that represents its own analytical unit. (Eisenhardt et al. 2007: 25). This is in line with Baines et al. (2008a: 551) who conclude that as far as case studies concerning organizations' shift into services are concerned, inductive studies represent a feasible choice. In summary, case studies emphasize the real-world context in which the phenomena occur. (Eisenhardt et al. 2007: 25).

Data analysis

In order to critically examine the gathered data, company cases are first analyzed in the *Within-case analysis* section of the Results chapter. Since there are four different cases discussed, *the multiple-case study* version of case study methods is used respectively. A multiple case -report consists of "*multiple narratives, covering each of the cases singly*". (Yin 2009: 170). In this context, narratives correspond to the quotes taken from the annual reports, which facilitates external validity since the citations are directly taken from the official company documents, i.e. annual reports.

On the other hand, the author himself concludes which citations to implement into the study. Yin (2009: 105) reminds that a case study investigator is an observer that tries to identify the objectives of a company attempting to influence other partners through the documents. This set-up requires an investigator to be correctly critical in interpreting the evidence. Even though the decisions of which citations to use were made objectively and with cautiousness in this research, the reliability is still decreased because of the randomness entailed. In other words, if another researcher would conduct the same study, he/she might end up using some other citations.

Internal validity refers to establishing a causal relationship, whereby certain conditions seem to lead to other conditions. External validity is connected to establishing the domain to which the outcomes of the study can be generalized. Reliability on the other hand demonstrates that the operations of the study, for example the data collection procedure, can be repeated with the same findings. (Buchanan et al. 2009: 470).

This study is mostly qualitative as the annual reports represent the central source of this paper. However, both the case study and cross-case analysis can contain quantitative data too (Yin 2009: 19, 157). This observation is well in line with Buchanan et al.'s (2009: 474) notion; it is possible to use both qualitative and quantitative data as a mix of sources when conducting a case study. This is the case with the present study since such

financial measures represent quantitative data as net sales, profit margins and market values and they are applied in this paper.

4 RESULTS

The focus of this chapter lies on describing the results, which will happen in two sections; servitization processes of case companies are explored individually in the first section and the second section consists of cross-case analysis. *Within-case analyses* aim to provide a detailed picture of how each company has progressed in its service development path, whereas the central idea of *cross-case analysis* is to compare the case companies.

4.1. Within-case analyses and case descriptions

To offer a comprehensive view of individual case companies, the most essential annual report citations, accompanied with the service share of net sales -curves, are simultaneously presented in the form of case company specific figures visualized in this chapter. After each figure, a detailed analyze of each company`s servitization process development is presented. In this respect, also additional content deriving from the annual reports is illustrated with such citations that have not previously been presented in the single case figures. To be able to answer to the research questions, the company cases are analyzed sequentially in alphabetical order starting from Kone and ending to Wärt-silä.

4.1.1 Case Kone

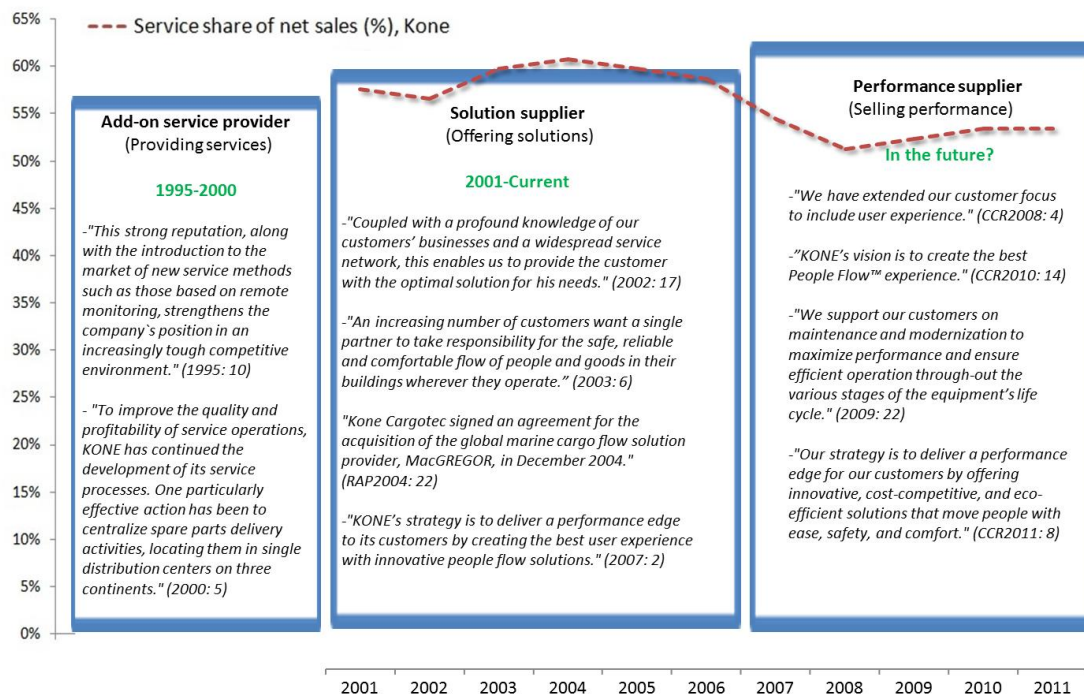


Figure 2. Kone's service share of net sales added with the citations illustrating the change into a more service-oriented organization. (Kone Annual Reports 1995-2011)

Kone has involved strongly in the service businesses for many decades; since the 1970s most of its net sales has derived from service operations (Kone 2000: 10). The solid service-related heritage is reflected in the present; Kone was solidly located in the *Add-on service provider* -phase as early as in 1995 and jumped into the third phase, *Solution supplier*, already in 2001. Kone's People Flow concept reflects the stark emphasis on customer value adding effort that is often mentioned in Kone's annual reports (Kone 2007: 2; Kone CCR 2010: 14; Kone CCR 2011:6).

Payne et al. (2008: 84) state that "*customer is always a co-creator of value; there is no value until an offering is used -experience and perception are essential to value determination*". Also Prahalad & Ramaswasmy (2000: 2) emphasize companies' capabilities to enhance experiences among customers. They characterize the evolution towards a more service-dominant logic as the transformation of customers from "*passive audiences*" to "*active players*". This view is echoed by Kone in the form of its active interaction with customers. From the value creation aspect, it is feasible to connect experiences

and value creation intensively together (Prahalad et al. 2000: 7). Kone's *People Flow* concept is a comprehensive example of the service enhancing simultaneously both user experience and customer value:

"KONE continued to strengthen its customer focus and improve its product and service offering, which took significant steps forward in all market areas." (Kone 2006: 11)

"KONE's strategy is to deliver a performance edge to its customers by creating the best user experience with innovative People Flow solutions." (Kone 2007: 2)

"People Flow gives us a direction for developing our offering to meet our customers' needs and enables us to offer, deliver and maintain complete solutions. Adopting a People Flow mindset marks a shift from product-driven organization to a more customer and end-user driven approach." (Kone 2009: 20)

"KONE systematically studies what end users need when they are moving within a building in order to understand how our solutions and services can deliver the best possible user experience." (Kone CCR2010: 24)

Dialogs represent a form of learning. A customer can engage in a dialog with a supplier already during the stages of a product or service design and delivery. Learning more about the customer enables the supplier to improve the design of their relationship and facilitate the value co-creation with customers (Payne et al. 2008: 84, 86). Tuli et al. (2007: 12) introduce their concept of *operational counseling* referring to "the extent to which a customer provides information and guidance about its operations to a supplier". This interaction may also occur vice versa as suppliers provide their customers with information and guidelines. Consequently, this kind of active information sharing and learning is one of the key factors in facilitating the effect of solutions (Tuli et al. 2007: 12-13). Respectively, Kone offers a large variety of services in this vain as it provides various opportunities to customize Kone's installations and solutions according to the customer's preferences as the following quotes demonstrate:

"Improved customization is also offered by the KONE Deco™ solution, which makes it possible to decorate elevator car interiors with different patterns." (Kone 2006: 12)

"In addition to choosing a suitable solution from the award-winning KONE design collections, we can work closely with our customers to create a customized design based on a wide selection of materials and components." (Kone CCR2010: 25)

"Coupled with a profound knowledge of our customers' businesses and a widespread service network, this enables us to provide the customer with the optimal solution for his needs." (Kone 2002: 17)

Integrated solutions are unique combinations of products and services addressing a customer's particular business problem. *Maintenance and Operating contracts* represent

integrated solutions. (Brady et al. 2006: 360-361). There are several motivational drivers for manufacturing companies to thrive for long maintenance contracts. The key motivational driver for applying maintenance contracts lays on the manufacturer`s desire to better exploit the partly untapped installed base (Oliva et al. 2003: 168). One way to increase the installed base is to acquire new installations to be served, which may happen by providing service for such equipment that is not originally manufactured by the specific supplier (Raddats et al. 2010: 523). Kone has carried out multiple reforms in its service functionality in order to facilitate its services in terms of effectiveness for the customers. Information technology has played a key role in this effort as Kone “*KONE has developed built-in diagnostics capabilities that further enable preventive maintenance as troubleshooting can be done from a distance*”. (Penttinen & Palmatier 2007: 557). The following example quotas confirm Kone`s motivation to widen the installed base, invest in maintenance and operating agreements and exploit the technological opportunities to monitor the installed equipment:

"KONE has developed new types of maintenance contracts, which shift the focus from repairing breakdowns to guaranteeing the reliability of the equipment." (Kone 2001: 8)

"Maintenance: The KONE Optimum™ maintenance contract provides proactive, performance-based service and continuous monitoring of the elevator." (Kone 2003: 57)

"Some of the products made and installed by KONE are serviced by third parties." (Kone FS2008: 63)

"New equipment installations are the most important source of growth for our maintenance business." (Kone CCR2011: 13)

Kone actively emphasizes also other servitization-related characteristics in its annual reports. One of these often-mentioned subjects is the *non-cyclical nature* of service business compared to the tangible goods which are heavily dependent on the current economic situation. Services tend to generate continuous revenue streams throughout the whole product life cycle (Brady et al. 2006: 361). Here are some illustrative examples of the quotations on the steady income stream of Kone`s service business:

"Service, which is less cyclical, together with a record high new equipment order book, act as a balancing business contributor and gives stability to economic performance of the corporation." (Kone CCR2008: 21)

"The maintenance business, which is less cyclical by nature, provides stability to the more cyclical new equipment market. This brings stability to KONE's economic performance in the long term." (Kone 2009: 52)

A manufacturing company needs to acquire new skills and people when changing its business logic to a more service-oriented one (Wise et al. 1999: 141). Information management, innovation management and portfolio management represent some examples of these new sorts of skills required (Brady et al. 2006: 364). This lucid demand for new sorts of personnel-related capabilities is disclosed in Kone`s annual reporting:

"A more customer-oriented way of working will be supported by further developing the skills of all employees and especially the sales and customer service personnel." (Kone 2006: 24)

Not only has Kone`s history been service-weighted, but the rich variety of Annual Report citations depicting how Kone provides their customers with *the performance edge*, may indicate Kone`s willingness to move on to the last service development phase soon. Here are some citations addressing Kone`s intensive use of expressions that contain performance-centered approach:

"KONE Strategy: KONE delivers a performance edge to its customers by creating the best user experience with innovative People Flow solutions. Simultaneously, KONE's people leadership and processes enable operational excellence and cost competitiveness." (Kone 2009: 17)

"We support our customers on maintenance and modernization to maximize performance and ensure efficient operation through-out the various stages of the equipment's life cycle." (Kone 2009: 22)

In brief, Kone has made a solid progression throughout the service development stages as its emphasis has heavily been on services for a long time. This can be noticed from the fact that Kone was located in the second service development phase already in the beginning of the time span used in the present paper. Kone`s vigorous focus on facilitating the customer value and intense performance -related perspective both stress Kone`s attempt to intensively invest in services in the future, which may soon embody as an upgrade to the last Service development phase, i.e. *Performance supplier*. This in line with Penttinen et al.`s (2007: 557) finding; *"the company (Kone) was willing to respond to the customer demand for year-to-year contracts. By moving toward offering availability, the company has been able to achieve higher revenue growth and profitability"*. Thus, despite of selling only tangible products, Kone has altered its thinking to providing customers with also *"availability"*. The last service development stage, in which Kone will sell purely performance, is probably close in reach.

4.1.2 Case Metso

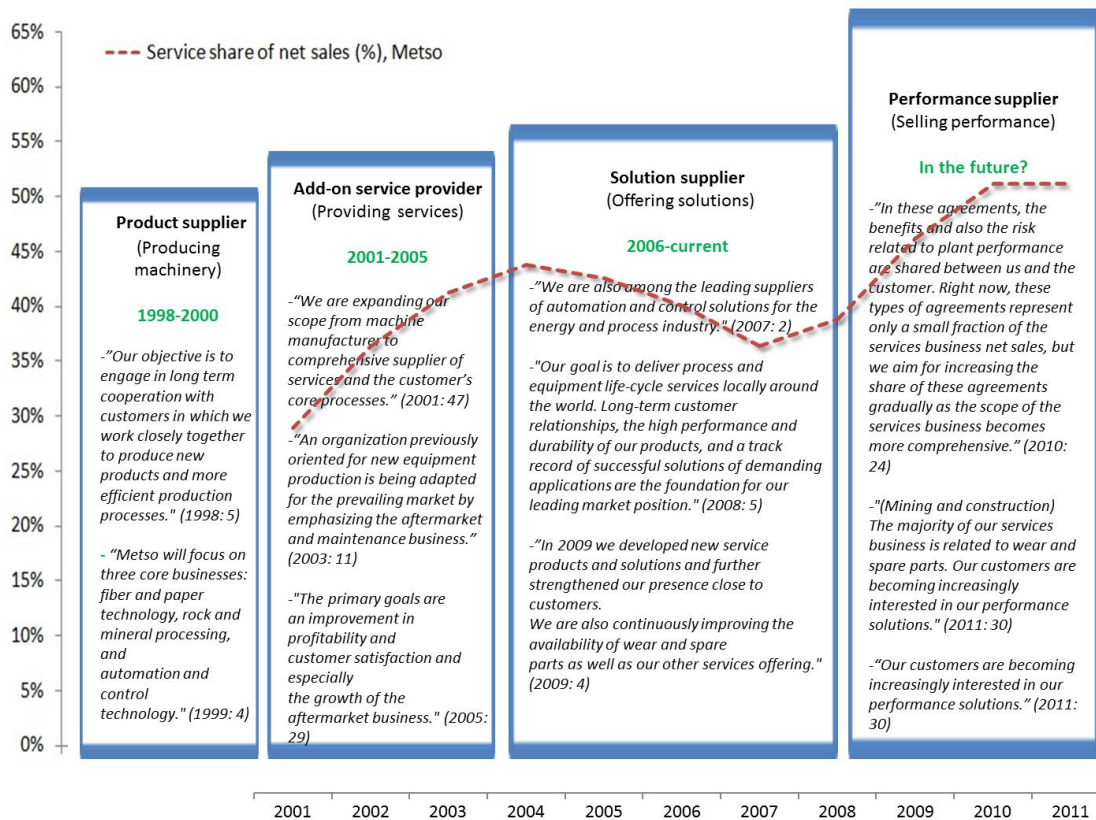


Figure 3. Metso's service share of net sales added with the citations illustrating the change into a more service-oriented organization. (Metso Annual Reports 1998-2011)

Metso has gone through a compact trajectory as it has managed to move from the *Product Supplier* -phase to the *Solution Supplier* -phase. Hence, a lot of improvement has happened in terms of servitization in the 2000s. Nowadays Metso is even able to offer advanced solutions that are closely linked to the previously discussed *performance* -concept as the citations under *Performance supplier* -phase illustrate (see figure 3). This successful servitization journey has also been identified within Metso's own organization, as this example effectively demonstrates:

"In over a decade, we have transformed from a traditional machine supplier to a major services supplier." (Metso 2010: 21)

Gebauer et al. (2005: 16) have prepared various service strategies to be applied with different services. First, *after-sales service providers* focus on cost-leadership and ensure sufficient functioning of the product. Second, *customer-support providers* offer a unique value proposition by investing in the intense product and service differentiation.

Third, *outsourcing partners* combine cost-leadership with the product and service differentiation logics to provide attractive prices for operational services assuming the operating risk and full responsibility for the client's operations. In Metso's case all of these service types are available for customers. Here is an example of a comprehensive service agreement that allows Metso to take care of both maintenance and operation of the installations:

"Level 4 Service package: -The customer and Metso set shared targets for the development of the machine, equipment or process. -The customer and Metso work together at the customer's site. Metso is responsible for the productivity and maintenance of the machines, equipment and processes as well as management of capital assets." (Metso 2009: 25)

Despite its rapid progression in terms of servitization, Metso's annual reporting actively stresses the importance of various sorts of services entailed in its service offering. Hence, also service agreements form an important area for Metso. This is witnessed through the following citations that illustrate the wide variety of different sorts maintenance and operation contracts catered by Metso:

"Metso Paper's objective is to conclude long-term service agreements with these customers, in which the main responsibility for process service is transferred to Metso Paper." (Metso 2005: 22)

"We have, however, further expanded the services business scope beyond the traditional "after-market" concept to include even maintenance agreements, and also process agreements through which we will help customers optimize the use of their equipment. To further boost services growth, we are continuing to innovate new business concepts and service products." (Metso 2007: 7)

"Our goal is to conclude long-term service agreements on as many of these new equipment and lines as possible." (Metso 2007: 14)

"At the same time, our growing installed base will create a good platform for services business growth: for maintenance agreements and for deliveries of spare and wear parts." (Metso 2009: 39)

To be able to fully exploit the value of moving downstream in the value chain toward end-customers, companies have to expand their definition of the value chain by shifting their focus from operational excellence to customer loyalty. This demand requires rethinking the concept of vertical integration in general. A manufacturing company should implement its customer's perspective and define all the activities that a customer performs when using and maintaining the particular product throughout its whole life cycle, from sale to disposal phase. (Wise et al. 1999: 134-135). This type of product life cycle logic is clearly reflected in these exemplar quotations:

"Life cycle business refers to the development of solutions that help customers to maximize the economic benefit from their processes throughout the life cycle of their machinery and equipment". (Metso 2003: 15)

"A particular emphasis in R&D is the engineering of new concepts and products related to life-cycle services." (Metso 2006: 11)

"We offer our customers services that cover the entire life cycle of a product or service." (Metso 2010: 24)

Not always was it easy to find a clear direction of the future service growth strategy from the annual reports of the case companies. In contrast, Metso seems to have a clear vision considering the current and future service strategies as far as the growth of both overall business and service business fields are considered. According to a wide array of recent citations (Metso 2010: 46-47; 2011: 11; 2011: 30) Metso seems to aim to further intensively invest in service business. The future growth will occur both through an organic development and acquisitions. Product manufacturers tend to share unique advantages compared to other service companies as far as service development is concerned; when serving an installed base customer, acquisition costs tend to be lower since manufacturers are already involved in the new equipment sales, thus being already provided with the specific information of new equipment. Product manufacturers usually have more dormant knowledge acquisitions costs as well, because they already have special knowledge of the product service requirements during its lifecycle. Finally, product manufacturers often possess many of the special manufacturing technologies to produce spare parts or to carry out machinery upgrades, meaning that they also have lower capital requirements compared to the other service companies. (Oliva et al. 2003: 164).

One way to foster service business internally is to expand the installed base (Raddats et al. 2010: 523). Payne et al. (2008: 86) define the concept of *customer's value creation process* as *"a series of activities performed by the customer to achieve a particular goal"*. They note that the supplier has two appropriate ways to improve its competitiveness in this respect; to develop its capacity to add the customer's total pool of the competence- and capability-related resources or to affect the customer's process in such a way that allows the customer to exploit available resources more efficiently. First way can be undertaken by for instance through mergers and acquisitions that add a company's pool of competence in this particular area (Payne et Al. 2008: 86), which is in line with Metso's attempts. The key message of widening Metso's service business can be noticed from the following citation examples:

"One of our key strengths is our extensive installed equipment base and the services business supporting it." (Metso 2010: 22)

"Our goal is to increase the share of the services business and to keep it above 40 percent of our net sales also at the top of a business cycle." (Metso 2010: 46-47)

"We are continuously developing and expanding our services offering." (Metso 2011: 11)

"We will continue to develop the services business through our installed base and to expand our presence and offering organically and through acquisitions." (Metso 2011: 30)

As previously discussed, a more service-oriented organization differs from a product-oriented mindset. There is a distinctive need to add customer-centric units beside the product-centric units (Galbraith 2002: 205). In addition to a structural reformation, service and product manufacturing businesses necessitate different organizational cultures as well (Davies et al. 2006: 43). In line with this ideology, a distinctive service unit was established in Metso in 2006:

"The forming of a separate Service business line as of the beginning of 2006 enables a more focused range of aftermarket products and services to be developed." (Metso 2005: 10)

As can be seen from the citations in the figure 3, Metso may not be far from advancing to the *Performance Supplier* -stage as performance is often discussed in the contexts of operating a customer`s installations. Also these recent citations further confirm this view:

"New products included, for example, service offerings for mining customers in which they can select inspection, site supervision, maintenance, process optimization and complete maintenance services and even performance contracts with risk and profit sharing options." (Metso 2010: 76)

"In the spring of 2011, we signed an extensive multi-year life-cycle services contract with Russian Copper Company. The contract includes equipment maintenance, planning and operational support, process and product support services, as well as wear and spare parts and components. We are supplying the equipment, maintenance and operational support for this project and continuously monitoring equipment performance and efficiency." (Metso 2011: 11)

In summary, Metso has advanced rapidly and intensively in its servitization path. This attempt was vigorously launched in the beginning of 2000s and it continued to the *Solution Supplier* -phase which was reached already in 2006. Taking also into account the promising performance -related discussion heralding the potential transition to the last service development phase, Metso`s servitization process can be described with the words *effective* and *purposeful*.

4.1.3 Case KoneCranes

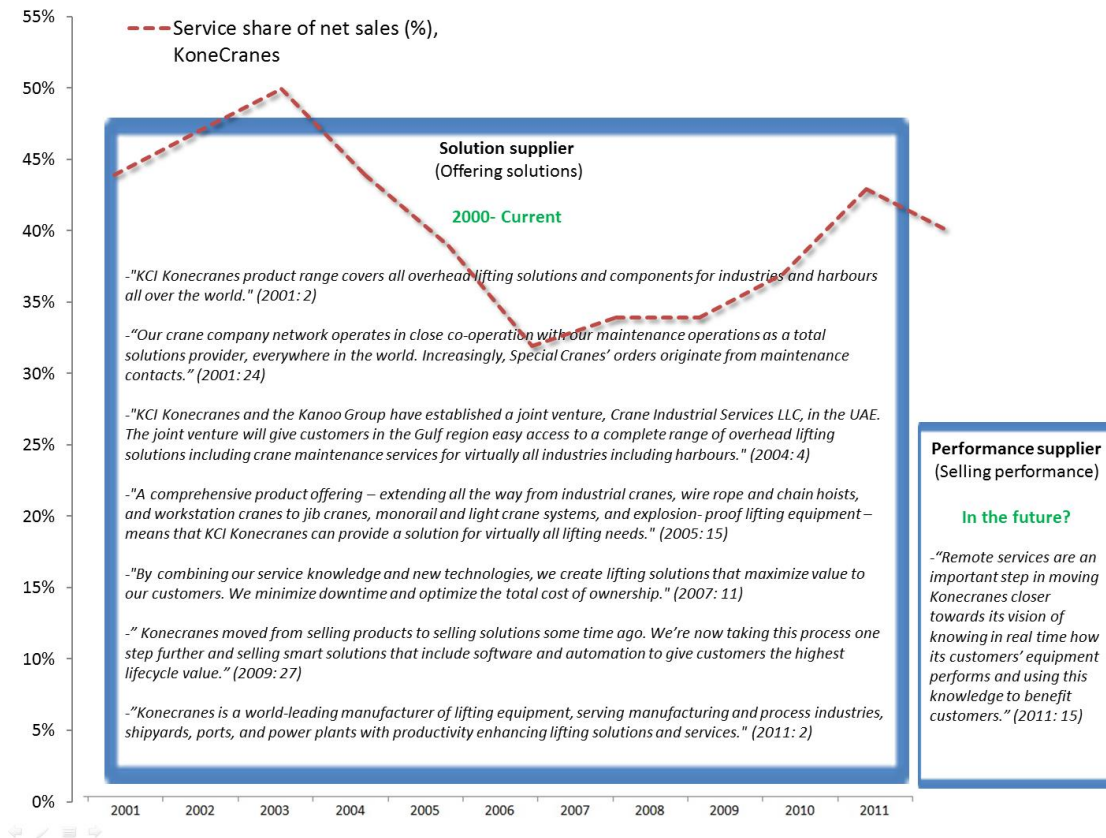


Figure 4. KoneCranes' service share of net sales added with the citations illustrating the change into a more service-oriented organization. (KoneCranes Annual Reports 2000-2011)

As far as the service development phases are considered, KoneCrane's situation is rather interesting; yet, it had progressed to the third stage, i.e. *Solution Supplier* -phase as early as in the beginning of the paper's examination time span in 2001, but it has been stuck at the same phase ever since. Nevertheless, when approaching the year 2011, more and more discuss about service issues identified to belong to the final development stage, is held.

KoneCranes has managed to conclude exceptionally many maintenance agreements with its customers. One motivator for organizations to offer service agreements is that it is more profitable to maintain and satisfy the current customers than to renew customer

base constantly (Reinartz et Al. 2003: 77). Service contracts also tend to decrease the variability and unpredictability of the demand concerning the installed capacity, allowing higher capacity utilization (Oliva et Al. 2003: 168). The following quotes embody KoneCranes` willingness to exploit maintenance agreements:

"The service agreement base includes more than 208,000 cranes." (KoneCranes 2002: 5)

"KCI Konecranes' service contract base covers over 240,000 cranes of all types and makes." (KoneCranes 2005: 11)

"More than 292,000 units are under maintenance contract, of which approximately 25 percent are manufactured by Konecranes." (KoneCranes 2007: 4)

"More than 360,000 units are covered by Konecranes' maintenance contracts, of which approximately 25 percent are manufactured by Konecranes." (KoneCranes 2009: 3)

Mathieu (2001b: 453) defines "a service as a product" as a distinctive service type being independent from the company`s goods. KoneCranes maintained actively other manufacturers` equipment already in the beginning of the research span and it continues to carry out that approach. By taking over responsibility for operation, a solution provider can feed back critical information about in-service problems directly to the product units to improve the design and functionality of future products (Brady et al. 2006: 364). Exploiting other manufacturers` installation is one of the company`s way to gain growth for service business. This view is often echoed in the KoneCranes` annual reporting:

"Over 80% of the cranes in the agreement base have not been manufactured by KCI Konecranes." (KoneCranes 2003: 5)

"Business Area Service offers service and maintenance solutions for all brands of industrial cranes, port equipment, and machine tools." (KoneCranes 2010: 3)

The role of meeting the customer`s requirements in the value creation process is important; customers regard the fulfillment of their business needs as one of the key metrics when assessing a solution`s effectiveness. (Tuli et al. 2007: 8). Services supporting the customer`s actions seem to be particularly potential from the value creation aspect. From this premise, it is often beneficial to facilitate a customer`s opportunities to receive such services that can be tailored accordingly. (Mathieu 2001a: 51). The idea of customization is frequently referred in the KoneCranes` annual reporting when discussing the services and solutions available for customers:

"The information gathered from our service operations of around 265,000 cranes, supplements the understanding of equipment behavior in different conditions and allows us to provide tailor-made lifting solutions that result in increased efficiency, life-time related crane safety, and productivity gains for our customers." (KoneCranes 2006: 18)

"Konecranes offers a full range of service solutions for all its customers designed to match their individual maintenance and performance needs. These solutions vary from expert services related to a specific project or product to full service and material handling partnerships." (KoneCranes 2011: 14)

As previously discussed, there has soared a connection between the frequency and nature of customer encounters and the intensity of relationship between the manufacturer and the customer; the more frequently and the more across product categories the clients buy, the more durable the relationships becomes. (Reinartz et Al. 2003: 81). Not only will higher customer allegiance be achieved, but also a higher usage-level. Therefore the *single supplier -approach* is preferred from a supplier's facet. The opportunity to operate as the sole supplier is often emphasized in the KoneCrane's annual reports as the following citations demonstrate:

"Our business concept is to provide a wide range of lifting equipment, modernisation and maintenance services for overhead handling applications. Our customers benefit from using a single-source supplier for all their crane-related needs." (KoneCranes 2003: 3)

"The solutions provided by Konecranes' business areas complement each other and enable customers to meet most of their lifting needs through one supplier." (KoneCranes 2009: 11)

Manufacturing companies should regard their product sale as an opportunity to open doors for the future service sales (Wise et al. 1999: 135). This view is consistent with KoneCranes' annual reports that emphasize the service sale as a venue for generating additional product sales and vice versa. Also information sharing between different business units can be enhanced through this sort of cross-divisional collaboration. These themes are covered by the following examples:

"Cross-selling between business areas represent important growth opportunities for the Group." (KoneCranes 2001: 3)

"KCI Konecranes' three business areas are interlinked by a high degree of synergy. Every service call fuels growth in the crane and equipment operations and every crane sale creates opportunities for providing maintenance services." (KoneCranes 2004: 9)

"Konecranes' service and equipment businesses are interlinked by a high degree of synergy. Every service customer relationship creates opportunities for equipment sales. Also, every crane sold creates opportunities for providing services." (KoneCranes 2009: 11)

Companies attempting to offer highly advanced services without having the sufficient capabilities of basic product-oriented services seem to fail in their effort to exploit the servitization opportunities (Oliva et Al. 2003:171). Albeit KoneCranes has not yet reached the *Performance Supplier* -stage, it can provide its customers with an extensive

array of different type services. The following sample consists of citations clarifying the versatility and trajectory of service types offered by KoneCranes:

“Services range from inspections, preventive maintenance programs, modernization services, preventive repairs, on-calls and spare part services to mill wide service contracts.” (KoneCranes 2005: 3)

“Konecranes’ services are divided into five different levels, which are built up from different service modules: inspections, preventive maintenance, on-call services, modernizations, consulting, installation and spare parts.” (KoneCranes 2007: 16)

“Business Area Service put a lot of emphasis on developing and launching new products in 2009. Remote monitoring services were introduced, for example, offering 24/7 reliability services on call at all times and productivity and performance services designed to ensure the maximum life cycle value for lifting solutions. Global technical support was also launched.” (KoneCranes 2009: 15)

“New types of services utilizing the latest IT and measurement technologies have proved increasingly attractive.” (KoneCranes 2010: 13)

A supplier company should be able to deliver such a mix of services which minimizes the overall costs of owning and using the product (Wise et al. 1999: 136). This view and related pricing policy is actively raised in the KoneCranes` annual reporting as these quotes confirm:

“Our objective is to maximise lifting availability for our customers while at the same time minimising total lifetime costs, i.e. the total of capital, operating and maintenance costs for the equipment.” (KoneCranes 2003: 8)

“Maintenance Services focuses on preventive maintenance activities aimed at maximising the availability and minimising the ownership costs for the equipment. Services are provided for cranes and lift trucks of all types and makes. In certain markets the service offering also covers the customers’ machine tools.” (KoneCranes 2005: 3)

The non-cyclical nature of service business enables suppliers to stabilize cash flows, which enhances the predictability (Oliva et al. 2003: 168). For KoneCranes this sedative service feature seems to represent a significant role as there are a large number of quotes for this issue. Some of the quotes simultaneously authenticate the approach to gain further overall-business growth through services:

“KCI Konecranes’ large Maintenance Services business constitutes business stability with only limited exposure to cyclical market swings.” (KoneCranes 2001: 4)

“Maintenance Services is our motor for organic growth. An activity with less cyclical variation compared to our other activities, Maintenance Services proved its dynamic nature also in 2003.” (KoneCranes 2003: 8)

“By nature, maintenance services are less exposed to cyclical variations in the world market compared to equipment sales and therefore help even out the effects of investment cycles.” (KoneCranes 2004: 9)

"Maintenance in general is a genuine growth market, since outsourced crane maintenance is growing steadily around the world." (KoneCranes 2005: 7)

In brief, KoneCranes` service development path could be described as *being stuck despite the promising start*. Although it was one of the most progressed companies in the early 2000s, it has not proceeded to the last service development phase in 2011. KoneCranes` major strength lies on its fundamental experience and knowledge of maintenance contracts. KoneCranes` vision includes perform-related services, but this pledge has not yet progressed to a practical level.

4.1.4 Case Wärtsilä

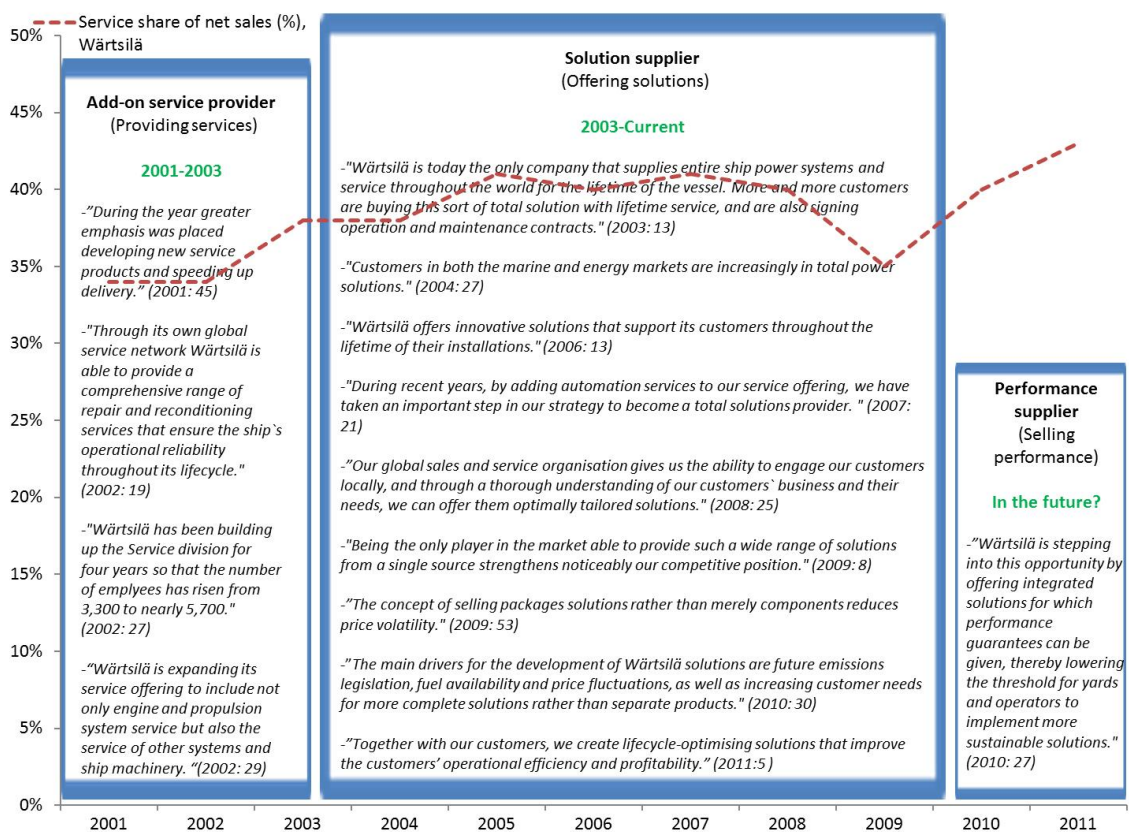


Figure 5. Wärtsilä`s service share of net sales added with the citations illustrating the change into a more service-oriented organization. (Wärtsilä Annual Reports 2000-2011)

During the research period Wärtsilä has managed to upgrade from *Add-on service supplier* -phase to *Solution supplier* -stage. However, before beginning to more actively implement the service-oriented approach, Wärtsilä was a rather product-oriented organization. The strategic emphasis lied on products and related engineering as can be no-

ticed from the following citation deriving from year 2000, i.e. one year before the beginning of the study span:

"The distribution of Sanitec shares in spring 2000, and the sale of the Assa Abloy shares are part of Wärtsilä's strategy to concentrate on engineering." (Wärtsilä 2000: 7)

Manufacturing companies tend to distinguish their businesses under different business divisions. In case of Wärtsilä, this separation is particularly meaningful, because there have been tangible differences between how the two main manufacturing business divisions, i.e. *Ship Power* focusing on ship installations and *Power Plant* concentrating on power plant power supply, have developed in terms of servitization in the 2000s. Power Plant division has been more active in terms of implementing new service types in its business logic in general. Following citations illustrate these differences:

"We believe that the extended maintenance concept will gradually gain acceptance not only in power plants but also at sea." (Wärtsilä 2001: 9)

"O&M services in the marine market are relatively unexploited. Wärtsilä is targeting increasing growth in this sector by developing new concepts and maintenance solutions to meet the requirements of this market." (Wärtsilä 2006: 13)

"For our power plant customers, operations and management agreements are more common, and we are responsible for ensuring that installations meet the set performance targets and lifetime criteria, freeing owners to concentrate on their core business." (Wärtsilä 2007: 22)

Single supplier -approach is actively raised (Wärtsilä 2006: 11; 2010: 96) as one of the Wärtsilä's ample strengths when it comes to the business co-operation between Wärtsilä and its stakeholders. Single supplier means that a supplier can provide a complete solution itself (Tuli et al. 2007: 14). The tangible advantages gained through applying the single-supplier ideology are mentioned in multiple occasions of Wärtsilä's annual reports and the following citations holistically represent these intentions:

"Relying on one single supplier gives shipbuilders important service benefits in system design, engineering and project management. Coordination work is reduced when one supplier is responsible for procurement, project management and installation supervision for the entire system. Lifetime support from one supplier: For ship-owners a single supplier system gives benefits in terms of operation and maintenance onboard the ship as well as the availability of extended lifetime support for the entire system. It also enables a higher degree of integration, which brings greater benefits in terms of fuel efficiency, reliability, environmental friendliness, operational flexibility, manoeuvrability, and lower noise and vibration levels than is usually achieved by considering individual items of machinery on their own. This approach calls for the power and propulsion systems to be tailored exactly to the customers' requirements, a task Wärtsilä a proven ability to perform." (Wärtsilä 2004: 17)

"By choosing Wärtsilä as a single supplier, ship builders can concentrate on their core competence areas and significantly reduce the risk of interface problems compared to machinery supplied from different sources. From the shipowners' point of view the single supplier approach gives benefits in terms of operation and maintenance on board the ship. In this case, for example, better fuel efficiency or operating flexibility can be obtained." (Wärtsilä 2005: 13)

"In the Services business, Wärtsilä has no direct competitors that would offer a similar portfolio of services from a single source." (Wärtsilä 2011: 247)

After deciding to establish a distinctive service unit within an organization, firms tend to start enlarge their installed base service market either by expanding the current service offering to other product-centered services, or by acquiring additional installed base, hence becoming the service supplier for third party equipment. Wärtsilä has actively raised the role of different tools in its annual reporting when seeking growth in service business. In addition to gain larger installed base, broadening the service offering is also often referred as a way to further cultivate Wärtsilä's service business as can be noticed from the following citations:

"In acquiring new service companies Wärtsilä's aim is to broaden and deepen the range of services it offers." (Wärtsilä 2003: 4)

"Wärtsilä is seeking growth in its Service business in two ways: by introducing innovative services and capabilities that support its customers' business, and by expanding its geographical presence. Growth in Services is achieved through a combination of organic growth, partnerships and acquisitions." (Wärtsilä 2006: 13)

"During years, our Services business has experienced strong growth and growth will continue through organic expansion, through acquisitions and via partnerships. We continue to develop both our global geographical presence and to broaden our services." (Wärtsilä 2008: 10)

Traditional manufacturers might have offered services that are related to assembly, selling, delivery and supply of spare parts and upgrades. However, there are a large variety of new services to be added when moving downstream with aim to become a more service-oriented organization. These services entail financing, leasing, maintenance, scheduling, capacity planning, catering, parts depot-operations, refurbishment, resale, training services and actual operating of the product (Wise et al. 1999: 135). This path has been increasingly implemented among industrial companies, including Wärtsilä. The following citations illustrate Wärtsilä's expansion to the field of *training* services:

"Wärtsilä Land and Sea Academy was set up to provide training for marine and power plant customers". (Wärtsilä 2002: 4)

"Our solutions cover safety and reliability aspects, performance optimizers, modernizations and upgrades, and the entire environment. They range from original parts, technical support and condition-based maintenance, to complete training packages and full Operations & Maintenance agreements." (Wärtsilä 2005: 16)

"Training Services: Training programmes are tailored to the requirements of our customers, and range from traditional hands-on training in operations, maintenance and safety issues, and control systems, to advanced remote training systems and e-learning opportunities. (Wärtsilä 2010: 42)

Especially in the early 2000s, Wärtsilä begun intensively supplement its service offering with a wide array of long-term maintenance agreements (Wärtsilä 2003: 16), first within the Power Plant business field and later within the Ship Power business area (Wärtsilä 2005: 11). Wärtsilä frequently emphasizes opportunities for its customers to allow Wärtsilä take control over the customer`s installations it has built and conveyed. These citations echo Wärtsilä`s ample focus on service agreements:

"It is expected that, as in land-based power plants, an increasing number of larger-scope operations & maintenance contracts will be signed for ships and even entire fleets in the future." (Wärtsilä 2005: 11)

Further growth is sought by strengthening our service agreement offering in response to our customers' increased interest in maintenance partnerships." (Wärtsilä 2010: 41)

"We will grow by providing more service agreements with new Ship Power and Power Plants deliveries." (Wärtsilä 2011: 55)

"Wärtsilä also signed its largest ever long-term marine maintenance support agreement. The contract with Royal Caribbean Cruises Ltd covers a wide range of services and 29 vessels with an aggregated output of approximately 1,400 MW." (Wärtsilä 2011: 280)

The need for new sorts of skills among personnel when impelenting a more service-oriented business logic is often raised in the literature; manufacturing companies need to acquire new skills and people when going downstream in the value chain towards the customer (Wise et al. 1999: 141). These citations illustrate Wärtsilä`s thrive for new personnel-related requirements:

"In giving full and seamless to Wärtsilä`s business the HR function will need to focus further on the skills and competences needed to change the company into a solutions and full-service provider." (Wärtsilä 2001: 15)

"Services, which in 2008 represented as much as 40 percent of the total group revenue, has grown in terms of both geographical presence and skills. Several acquisitions during the year have broadened the skill base and enabled the entry into new services type, boiler service, which is noe being to introduced throughout the Wärtsilä network." (Wärtsilä 2008: 14)

A growing number of manufacturers offer various services, such as financing, operating, maintaining and upgrading an installed base of products. However, customers are not paying just for an integrated package of services and products, but are increasingly asking for guaranteed solutions for trouble-free operations. (Davies et al. 2006: 40). As

far as pricing solutions in concerned, it is difficult to quantify the value of solutions as they require co-operation and trust, whilst it is important to pay attention to all the life-time costs of a solution to estimate the value of a contract. (Brady et al. 2006: 363). Pricing services is gradually shifting from *the labor work or parts needed* -dependent way to a *fixed price* that covers all the services under a certain time period (Oliva et al. 2003: 167-168). It seems that suppliers may charge higher prices from customers by better communicating the value of solution relational processes (Tuli et al. 2007: 13) referring that when suppliers and customers interact closely, customers tend to appreciate better the value delivered by suppliers. Such customers are less eager to demand bundling discounts. (Tuli et al. 2007: 14). Following citation reflect that fixed pricing policy is actively offered for Wärtsilä`s customers with guaranteed agreements:

"Global customer agreements are based on a fixed agreement fee, which makes operational costs much more predictable for the customer." (Wärtsilä 2006: 102)

"In our maintenance agreements, we provide fixed prices for inspections, technical support, spare parts, training and maintenance work, while operations and maintenance agreements can cover full operational, management, and maintenance services, as well as performance guarantees of an installation." (Wärtsilä 2011: 50)

Customers should be provided with opportunities to customize both products and services (Mathieu (2001a: 51). Customization entails *"designing, modifying or selecting products to fit into a customer`s environment"* (Tuli et al. 2007: 7). Hence, from the customization`s perspective, the supplier can engage the client as early as in the co-design phase of products (Payne et al. 2008: 84). Rather than selling from a fixed menu, the particular team determines how to tailor product and service offerings to solve specific business problems for the customer (Brady et al. 2006: 363). Much of the value creation process takes its place in customization for the best solution for a customer (Galbraith 2002: 196). Respectively, Wärtsilä is active in offering customers comprehensive solutions added with extensive customization potential, which is demonstrated by the following quotes:

"Wärtsilä tailors its solutions to the precise needs of its customers by optimizing the entire ship machinery, propulsion and control system." (Wärtsilä 2006: 96)

"Our global sales and service organisation gives us the ability to engage our customers locally, and through a thorough understanding of our customers` business and their needs, we can offer them optimally tailored solutions." (Wärtsilä 2008: 25)

Taking into account Wärtilä`s existing ability to offer performance guarantees for its installations, Wärtsilä arguably has a promising starting point to continue its journey towards the last service development phase, in which the focus is on selling perfor-

mance instead of selling products and services. Wärtsilä has been able to give performance guarantees (as can be noticed from the figure 5) to a large scale for both Power Plant and Ship Power business areas. The capability to provide customers with specific performance guarantees is depicted in the form of these citations:

"Wärtsilä plans to move from selling individual maintenance services to sales of overall operation and maintenance service agreements. This would require Wärtsilä taking responsibility for an entire power plant, for example, guaranteeing its customer a certain number of megawatt hours of operation annually." (Wärtsilä 2001: 30)

"An O&M agreement brings production performance guarantees and financial predictability, giving owners a predictable and stable O&M cost profile over the years." (Wärtsilä 2003: 16)

"To limit risk, yards and owners tend to be very conservative in introducing new concepts. Wärtsilä is stepping into this opportunity by offering integrated solutions for which performance guarantees can be given, thereby lowering the threshold for yards and operators to implement more sustainable solutions." (Wärtsilä 2010: 27)

In summary, Wärtsilä has advanced effectively in terms of servitization during the 2000s. However, Wärtsilä has not managed to transfer to the last service development phase despite the recent, promising efforts in the area of performance guarantees. Characteristic for Wärtsilä's servitization path is a strong emphasis on the maintenance agreements in both of its main manufacturing business areas, Power Plant and Ship Power.

4.2. Cross-case analysis

Financial analysis

Fang et al. (2008: 12) note that *"the impact of a firm's transition to services on its value remains relatively flat or slightly negative until the firm reaches a critical mass of service sales (20%-30%)"*. As can be noticed from the table 2, all case companies exceed this critical level of service sale portion. Consequently, the impacts of the servitization should be positive within all case companies as they have already reached the critical mass of service sales. Nevertheless, there are considerable differences between the companies in this vein, as Kone has the highest service ratio and KoneCranes has the lowest service ratio.

Table 2. Financial data of the case companies from the 31.12.2012. (Kone`s, Metso`s, KoneCranes` and Wärtsilä`s Annual Reports 2011; Orbis Database 2012)

	Metso	Kone	KoneCranes	Wärtsilä
Market Value (Meur)	4287	10249	832	4402
ROE (%)	24	40,3	22,1	26,2
Profit Margin (%)	7,6	15,5	5	10,1
Service share of net sales (%)	45	54	40	43

The financial data of each company from year 2011 is visualized in table 2. Accordingly, Kone can be regarded as the most successful company on every financial measure involved. Kone`s market value (10 249 M€) is more than twice as high as Metso`s (4287 M€) or Wärtsilä`s (4402 M€), even though the latter ones are the second largest companies with approximately similar sizes of market values. KoneCranes has by far the smallest market value (832 M€). (Orbis Database 2012).

Kone stands for the highest service share of net sales amount (54%), the best profit margin (15,5%), highest return on equity (40,3%) and highest market value as well. By contrast, KoneCranes has the lowest service share of net sales (40%), poorest profit margin (5%), lowest return on equity (22,1%) and the smallest market value. Metso and Wärtsilä are located in the middle of Kone and KoneCranes when measured with these financials. (Orbis Database 2012) .

It is noteworthy, that the aim of this paper is not to study non-company -related factors, such as industry-specific attributes when it comes to analyzing the servitization processes. For example, Fang et al. (2008: 10) found that there is a linkage between the industry growth rate and a firm value in sense of the service ratio; in the high-growth industries service transition strategies decrease firm value, whereas in the low-growth industries the service ratio has a positive impact on a company value at an increasing rate.

Another salient industry-related finding was that with high industry turbulence service sales seem to have a positive impact on a company value at an increasing rate.

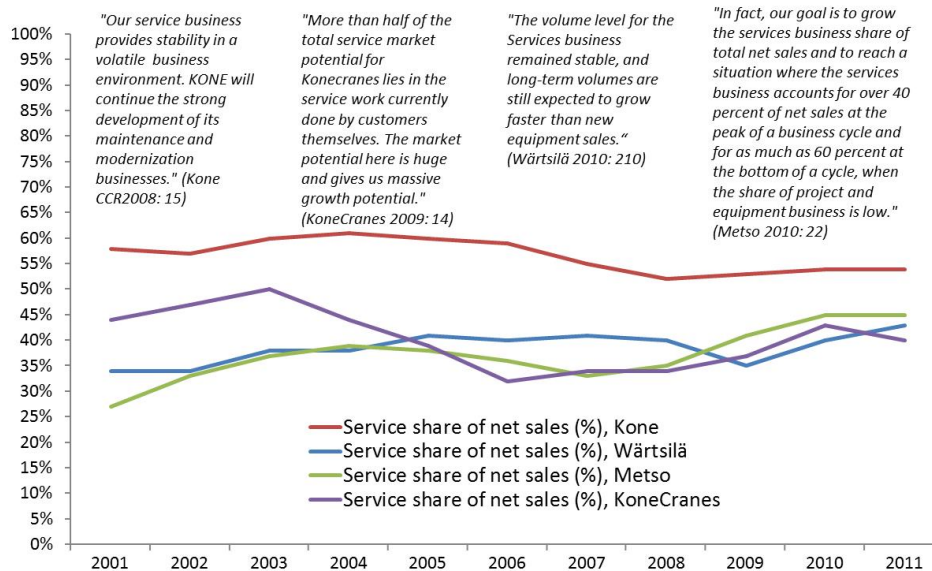


Figure 6. The trajectory curves of service net sales shares added with the citations illustrating the service development processes. (Appendix 1. Annual Reports)

Fang et al. (2008: 1) identify a firm's progress in implementing service based strategy "by using the portion of a firm's total sales revenue that results from the sale of services". Consequently, a firm initiating its service transition usually starts with a low service ratio and over time gains a higher level of service content. Hence, the service share of net sales is applied as a tool to compare the case companies in this context.

As can be noticed from figure 6, there are certain similarities regarding how the service share of net sales has evolved in the 2000s in general within all the case companies; the rising and falling trends occur roughly simultaneously. Especially after 2008 the curves illustrating the service shares of net sales seem to follow rather similar pattern; for example the impact of the financial crisis has likely had quite homogenous effects on all the companies in terms of service sales.

Despite of the similar trends behind the service share curves, there are explicit differences between the companies as well. *Kone* and *KoneCranes* have also provided relatively high service shares of net sales in the third service development phase despite the fact that their all-time-highest service portions are situated roughly in 2004. Respectively two companies (*Metso and Wärtsilä*) reached their all-time highest service shares of net sales in the recent years (2010-2011) during the third service development stage, i.e. during the *Solution supplier* -phase. Hence, in none of the company cases was the highest service share portion located in the beginning of the 2000s but later in their servitization processes. Consequently, advancing in the service development process seems to contribute as a higher service share of total net sales.

The similarities in the companies` service share curves enforce the assertion that all companies may have chosen rather similar service strategies in particular in the late 2000s. This phenomenon might have been enforced when trying to cope with the simultaneous business challenges such as economic downturns. There seems to raise a common attempt to broaden the service offering along the servitization process within the case companies when interpreting the annual reports in the late 2000s, which may be a result of economical subpoena of the financial crisis in early 2009. This finding is in line with the previous studies suggesting that the manufacturers improve their profits and revenues by offering high-value services, such as R & D particularly in times of economic downturn (Kohtamäki et al. 2013: 73).

Lastly, none of the case companies had reached the *Performance Supplier* -stage in 2011. However, some of the companies are clearly closer to this final phase as could be noticed from the given citations referring to guaranteeing a certain amount of performance for a customer in the form of service agreements; albeit this is not equal to selling solely performance for the customer (*Performance Supplier*) instead of tangible products and/or services, the final service development stage may be reached soon in the future within the case companies.

5 CONCLUSIONS AND IMPLICATIONS

In order to answer the research questions both the theoretical and managerial implications should be discussed. This requires that the key outcomes of the companies' annual reports are analyzed and the main findings are summed up. Therefore the theoretical implications are first covered, followed by the managerial implications.

5.1. Theoretical implications

This study contributes to the existing literature (Oliva et al. 2003; Reinertz et al. 2003) by supporting the idea that the distinctive service development phases can be explicitly defined. The service development framework (see figure 1. *Four stages of the Service-Development Process*) was introduced in this study. This framework can be used as a tool to analyze manufacturing companies' servitization processes in the future too.

With respect to RQ 1 (*How the servitization has proceeded within the case companies in the 2000s?*), the present study suggests that all the companies have made progress in their servitization processes in the 2000s. Respectively, it seems that it is possible to proceed to the next, more advanced service development phase relatively rapidly if the transition process is carried out cautiously; thus, some of the companies (*Wärtsilä* and *Metso*) managed to shift from the earlier phases to the third phase in a relatively short time span, i.e. within just ten years. On the other hand, for some companies it took a relatively long time to move into the next phase, even though they had proceeded well earlier in their history in terms of service development. This was the case with *KoneCranes*. All the case companies achieved the third service development phase during the research span. However, none of the case companies has proceeded to the final servitization development phase, *Performance supplier* in 2011 despite most of the companies (*Kone, Metso Wärtsilä*) seem to share particularly promising starting points to continue to the last phase in the future.

No manufacturing company involved into study stayed in the first phase, i.e. *Product Supplier* phase, but it was not until the early 2000s when *Metso* and *Wärtsilä* advanced up to the third phase. *Kone* and especially *KoneCranes* were capable of progressing into the third phase earlier, *Kone* in 2001 and *KoneCranes* even prior to the research span. Hence, with regards to RQ 2 (*How the case companies' service development processes differ*), there are distinctive differences between the case companies in terms of their

ability and willingness to move toward more service-oriented business logic. It is essential to note that there were *unambiguous differences in terms of both lengths and contents of service development stages* when comparing the case companies. However, none of the companies moved directly forward in the service development process by passing the next coming phase. Instead, *all the companies advanced sequentially*, i.e. phase by phase, during the servitization process.

With regard to the chronologically differing service development phases, sometimes it took quite a long time to advance to the next stage; for example *KoneCranes* remained in the third phase for the entire study horizon of 2001-2011. On the other hand *Metso* and *Wärtsilä* represent rapid developers in this respect. For instance, *Wärtsilä* progressed from the second service development phase to the third phase in just two years. Case companies also begun their servitization journeys with different starting points as *KoneCranes* and *Kone* were already situated in the third phase, whereas *Wärtsilä* and *Metso* started from the second stage.

The practices how the service offerings are reported on the case companies' annual reports seem to vary quite a lot; for example, some companies emphasize buoyantly customization possibilities from the customer's point of view (particularly *Kone* and *Wärtsilä*), whereas *KoneCranes* kept it focus mostly on increasing its installed base. All the case companies have taken over at least some of their customers' equipment, for instance in the form of long service and operating agreements. This finding is analogous with the similar results of the existing papers (Oliva et al. 2003: 168-169; Wise et al. 1999: 134; Raddats et al. 2010: 523) studying how companies have expanded installed base through exploiting other suppliers' equipment.

With respect to RQ 1, *the focus of business shifted on average toward a more service-oriented logic among the case companies during the 2000s*, which was the case with all the companies involved. This finding reinforces the idea of servitization being increasingly implemented (Bain et al. 2009: 559-561; Jacob et al. 2008: 251; Windahl et al. 2010: 1281) in the manufacturing business world. Thus, it seems that the growing service business trend, measured by both the quantitative data and case companies' service portfolios, is well supported by the rapidly increased and deepened service-related discussions on the annual reports. Most importantly, this paper further strengthens the notion of *industrial companies being increasingly concentrating on services*.

Advancing in the service development process seems to contribute to the higher service share of total net sales as well, although studying the role of industry-specific features was purposefully eliminated from this study. When approaching the servitization process economically from a manufacturer company's point of view, it seems to be a wise decision to advance up in the service development phases; *according to the financial results, companies generally reached their highest service shares of net sales during the more advanced service development phases*. This finding supports the argument (Hesket, Jones, Loveman, Sasser & Schelisenger 2008: 118-120; Oliva et al. 2003: 160; Wise et al. 1999: 134) that it is financially profitable for manufacturing companies to seek for the higher service portions of their total businesses. Albeit the outcomes of this paper connect an advanced service development to better financial performance of a company, there are also opposite conclusion founded in the literature; Finne & Holmström (2013: 23) sum up that the servitization effects on company performance seem to vary among the literature. This is line with Fang et al.'s (2008: 3) notion of spreading the company's resources between the current business and new businesses may affect also negatively the firm's overall financial performance and market valuation, particularly in the short run.

As it seems that altering towards more service-dominant business logic has had a positive financial contribution in all four case companies, I concede that there appears to be a positive correlation with the company's overall financial performance and the service share of net sales within all the case companies even though this paper does not take into account the industry-specific attributes. This outcome further supports the idea that *positive progress in the field of servitization contributes positively to the general financial measures of a manufacturing company*.

In summary, the service development path, entailing the four distinctive service development phases, seems to have become a scrutiny; we can discuss about an industry-specific "road map" that is followed by the manufacturing companies as they seem to follow this development pattern. However, bearing in mind RQ 2, there are sound differences in the length of each stage. Also the exact contents of the stages seem to vary between the case companies.

5.2. Managerial implications

This paper suggests various managerial advices. First, as far as the key source of the present paper, i.e. annual reporting is considered, services should be comprehensively discussed and listed to provide all the stakeholders with a realistic knowledge on how far the company is in the servitization progress. Mathieu (2001a: 52) emphasizes that management should pay special attention to establish communication strategies, in which annual reporting stands for an essential venue, that clearly describe the value proposition for the customer. In this sense manufacturing firms should exert clear and sharp communications in the form of annual reporting when supporting their product services offering. In general the service related reporting was carried out well within the case companies.

Secondly, the *current starting point*, i.e. in which service development phase the company has its present locust, dictates how the service development process should be taken further. In other words, management must be fully aware of the service development phase that the company is going through at the moment in order to rationalize towards which phase the company should aim next. This critical decision requires *exact knowledge on the ways how service strategy and service activities are organized currently*. In this process, a suggested path begins with identifying which services are currently offered, how popular and mandatory they are, how profitable they are and which products and other services they support. In order to obtain comprehensive information about the various services and the logics behind them within a particular company, all the essential business functional areas must be consulted. This can happen in a detailed level, for example, through the meetings between line managers and employees of all the departments. Line managers can provide their service-responsible superiors with the most vital service-related experiences and knowledge. Finally this information should reach the company's top management and other stakeholders. Collecting sufficient and valid data may necessitate purchasing external consulting aid if enough knowledge cannot be gathered by using a company's internal resources.

Respectively, management should be aware that there are *various challenges* related to the servitization as well; for instance, it is not easy for suppliers to provide profitable solutions (Tuli et al. 2007: 1). Furthermore, Wise et al. (1999: 139) recommend to take into consideration the customer's usage costs over the product's life time relative to its price when deciding even whether to step further into the servitization process. Despite the critics related to servitization, the *results of this study support the idea of carrying*

out the servitization process even though there are certain limitations and requirements that should be taken into consideration. To be more exact, management should take into careful consideration a number of *antecedents, requirements and potential impacts of the servitization* discussed in this paper when looking for the growth through more service-dominant business logic.

Since the most economically successful case companies (*Kone, Wärtsilä, Metso*) have intensively invested in their servitization processes, it is rational to pay specific attention to what types of services these companies offer. Their service offerings constitute of not only the mandatory *basic services* that support the more advanced services, but also *more advanced services*, such as comprehensive service agreements. Eventually, a manufacturer should be able to offer *solutions* for a customer. Thus, managers should complement their market approach with these sorts of services that enhance the relationship of the supplier and the client, such as customization services. This recommendation is analogous with Mathieu (2001a: 51) who suggests managers to implement services that enable relationship management and customization, in other words services that support a customer's actions. Also Tuli et al. (2007: 14) found that close interaction between a supplier and a customer seems result in more cost-effective solutions as well, which further supports the idea that suppliers are recommended to facilitate co-operation and information sharing with their customers. In the last servitization phase, a manufacturer should be capable of *selling performance* for a customer instead of products and/or services.

According to the present study results, the best performing companies have progressed rapidly in their servitization processes in the 2000s and it seems that these companies are also going to invest increasingly in services in the future. Hence, as the third and perhaps the most meaningful recommendation, *I advise manufacturing companies to advance in their servitization processes* since this seems to contribute the case companies positively.

In brief, *one of the most pivotal roles of the modern corporate management is to ensure that the company they lead, takes a fully advantage of the opportunities provided by servitization*; it's about the game, where the first and active players will eat alive the sluggish and rigid ones. The business environment is changing faster now than at any time since the invention of the steam engine.

6 LIMITATIONS AND FUTURE RESEARCH

Scientific facts are rarely based on single experiments but a multiple set of experiments that have replicated the same phenomenon under different conditions (Yin 2009: 15). This research is an exploratory study with the purposive sample of four Finnish manufacturing companies. The sample size of four companies is rather small, thus involving more companies into similar studies may provide more generalizable results. The future research is recommended to be carried out in more culturally and geographically versatile contexts albeit all the case companies operate outside Finland as well.

In particular, shifting the future research focus into other industries than manufacturing might reveal enlightening patterns and differences within and between the industries. Additionally, comparing manufacturing and non-manufacturing companies may generate feasible outcomes as Schmenner (2008: 431) has found that such manufacturing companies led the race towards more service-oriented business logic that were innovative in terms of new products but that did not have great manufacturing strengths. Companies with significant manufacturing capability were not as quick or complete in the servitization integration processes (Schmenner 2008: 431).

Case study approach provides rather limited basis for scientific generalization. The inherent assumption is that forming theory from cases is less objective, precise and rigorous than more traditional, large-scale hypothesis testing (Eisenhardt et al. 2007: 26). As far as methodological issues are further concerned, the key limitation relates to the use of annual reports as the key source of company information. Albeit this data was supported by financial measures derived from other databases, the buoyant emphasis on one source naturally deducts the overall validity. Even though the central idea of the study was to justify the findings based on the annual report data, a more diverse use of sources may impact the outcomes and is recommended for the future studies.

Albeit the whole financial performance of the company seemed to be firmly connected with the service share of net sales, this study lacks expletory reasoning behind this finding and further research of the financial issues is strongly suggested. Estimating the profits of individual companies from the service-focused view is risen as a challenge also by Kohtamäki et al. (2013: 72); it is difficult to draw generalizations about the factors influencing profits and on the other hand, company-level studies do not allow profit levels to be assessed within particular customer relationships.

It is particularly challenging to evaluate the role of industry-related factors which arguably have impact on the study results. Respectively, Fang et al. (2008: 10) found that there is a linkage between an industry growth rate and a firm value in sense of the service ratio. They (Fang et al. 2008: 5) also conclude that firms with high market share tend to be able to leverage existing relationship and brand resources better than rivalries with lower market share resulting higher returns from their service transition efforts. In this vein, the varying net sale numbers of the case companies may have been impacted due to these companies being operating in different industry fields. Thus, I encourage the future studies to consider whether and how the industry-concentrated factors affect companies in terms of servitization.

According to the study results, there are ample differences between the case companies when it comes to their efforts to advance in the servitization process both estimated in the duration of the service development process and in the service portfolios offered in different stages of this process. The more detailed reasoning related to these variations did not belong to the aim of this study, yet they could be worth rich academic research in the future; for instance, how different motivational factors allowed a company's management and personnel to enhance the servitization process and which factors potentially hindered this development?

In brief, most of this paper's limitations relate to the uncharted role of industry-specific factors when analyzing the case companies' servitization trajectories. The starkest methodological challenges regard the limited sample size and the buoyant role of annual reporting as the source. There is a particular need for future research in analyzing how industry-level factors impacted the service development paths of the case companies. It would be interesting to study how different motivational factors within different levels of organization's personnel affected the servitization processes within the case companies. The next logical step within the service development research field of the four case companies would be to find out if, when and how the case companies will proceed into the last service development stage, i.e. *Performance Supplier* -phase, in the future.

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APPENDICES

Appendix 1. Annual reports.

	Wärtsilä	Metso	Kone	KoneCranes
Annual reports used (year):	2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011	1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011	1995, 1996, 1997, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011 <i>*Kone CCR refers to Kone Corporate Responsibility report</i> <i>**Kone FS refers to Kone Financial Statements</i>	2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011

Appendix 2. Orbis Database financial results.

	Company name	Country ISO Code	Last avail. year	Profit margin % 2011	ROE using P/L before tax % Last avail. yr	ROE using P/L before tax % 2011
1.	METSO OYJ	FI	2011	7,61	23,97	23,97
2.	KONE OYJ	FI	2011	15,52	40,29	40,29
3.	WARTSILA OYJ	FI	2011	10,10	26,21	26,21
4.	KONECRANES OYJ	FI	2011	5,04	22,11	22,11

(Adapted from Orbis Database 2012)

Appendix 3. Servitization key themes of annual reports.

Kone

Product and Service Supplier key themes

How service sector has grown and how it grows

"The prospects for growth and profitability in the service sector are particularly good." (1995, 11)

"The volume of service business grew somewhat during the year under review compared to 1996. *The competition for service contracts has continued to stiffen.*" (1997, 6)

"*The number of elevators and escalators under service contract has grown steadily.*" (1995, 21)

"The productivity of maintenance operations is being further improved through preventative and predictive maintenance as well as through the spreading of the best business practices from various countries throughout the organization." (1997, 20)

"KONE will also continue its projects to improve the profitability of maintenance operations." (2000, 19)

"The automatic building door service business is KONE's latest growth area." (2002, 8)

"In addition to organic growth, KONE plans to grow through company acquisitions and expansion of its automatic door service operations." (2000, 19)

"*KONE Materials Handling also seeks growth by moving closer to the customer in the value chain and by extending operations to new markets. Moving the focus in the value chain means that service operations share of net sales increases.*" (2002, 14)

"Kone Cargotec also seeks growth by moving closer to the customer in the value chain and by extending operations to new markets. Moving the focus in the value chain means that the services sector's share of net sales increases." (2003, 13)

"This strong reputation, along with the introduction to the market of new service methods such as those based on remote monitoring, strengthens the company's position in an increasingly tough competitive environment." (1995, 10)

"KONE continued to pursue an aggressive acquisition policy during the financial period. Most of the acquisitions were companies specializing in elevator, escalator and automatic building door service." (FS2008, 21)

The current situation of service area

"*Backed by strong R&D resources, KONE offers comprehensive services for the manufacture, installation, modernization and maintenance of elevators and escalators.*" (1997, 2)

"*These services, even more than our excellent products, are the backbone of our strong global KONE brand.*" (2001, 5)

"KONE is a service company known worldwide as a technology leader with the most innovative products and services in the elevator and escalator industry." (2002, 7)

"KONE's main business is the manufacture, installation, modernization and maintenance of elevators and escalators." (1995, 2)

Customer-orientated approach

"The changes KONE is undergoing are making us a more profitable, market-responsive and customer-oriented company than we were in the past." (2000, 4)

Miscellaneous:

(Values) 1998: "KONE's principal values are reliability in products and services and quality in all operations." (1998, 2)

"KONE's strength lies in powerful concentration on its core competence in elevators and escalators, the wide geographic coverage of its operations and strong presence where ever there is demand for the company's products and services." (1999, 2)

"Building owners and managers will also benefit from KONE's Xion (TM) Data Link by being able to follow the performance history of their equipment. If their contract is based on the availability and performance of their equipment, they will be able to see that they are getting what they paid for." (1998, 45)

"The popularity of prefabricated packaged solutions is growing, impacting positively on the productivity of modernization operations. The steady increase in the value of service-book continued." (1999, 14)

Solution Supplier (Service agreements) key themes:

Single supplier mode

"Another major trend involves the bulking together by customers of all the maintenance operations for their buildings and contracting for comprehensive service from a reduced number of service suppliers. It is a priority for elevator and escalator companies to book maintenance contracts for as much as possible of the equipment they install." (2000, 6)

"Competition in maintenance services grew tougher throughout Europe during 2002. *Global customers increasingly sought to select a single supplier from whom to purchase both new equipment and service.*" (2002, 10)

"An increasing number of customers want a single partner to take responsibility for the safe, reliable and comfortable flow of people and goods in their buildings wherever they operate. We have expanded our Premier Partnership program to meet this growing demand and signed far-reaching agreements in 2003 with major players in the retail, hotel and public transportation sectors." (2003, 6)

Single supplier mode (+Long-term service contracts/Selling performance)

"The bulking of orders continued with both the public sector and private sector customers combining requests for service for multiple sites into a single contract in order to obtain the greatest possible leverage." (2003, 9)

Long-term service contracts/Selling performance

"KONE has developed new types of maintenance contracts, which shift the focus from repairing breakdowns to guaranteeing the reliability of the equipment." (2001, 8)

"The trend of large customers to bundle maintenance contracts for their entire equipment base continued." (FS2004, 2)

Customer-orientated approach

"(Load Handling) Coupled with a profound knowledge of our customers' businesses and a widespread service network, this enables us to provide the customer with the optimal solution for his needs." (2002, 17)

"The most important HR challenge for 2004 will be to increase the depth of customer focus in the organization." (2003, 47)

"We have worked hard to make our organization and operations more customer-focused." (2005, 8)

"In parallel with these results, we succeeded in making our company more customer-driven and sharper and more effective in terms of product competitiveness." (2006, 9)

"To better fulfill customer needs, KONE introduced a new product concept in Europe. The key idea is to provide customers with a wider range of alternatives in choosing their elevator car interiors and performance features." (2006, 12)

"We started the journey of transforming KONE into a more customer-focused and globally-aligned company in 2005." (CCR2008, 5)

Customer-orientated approach (+Single supplier mode)

"The bulking of orders continued with both the public sector and private sector customers combining requests for service for multiple sites into a single contract in order to obtain the greatest possible leverage." (2003, 9)

Customer-orientated approach (+How service sector has grown and how it grows)

"The key development programs in the implementation of the strategy are; increasing the customer focus, broadening and improving the product and service portfolio, improving business processes and productivity, utilizing sourcing power, and strengthening KONE's position in the Asian market." (2006, 4)

Total Solution provider

"KONE is a global leader in providing complete and innovative solutions for the installation, modernization and maintenance of elevators and escalators and the maintenance of automatic building doors." (RAP2004, 2)

Life cycle thinking

"The KONE Care for Life concept ensures the operational safety, reliability, and usability of a customer's equipment throughout its life cycle." (2005, 13)

"The service concepts, KONE Proximity and KONE Care for life, were further developed in 2006. KONE Proximity is a real-time service concept, which supports customer focus by improving the access to and amount of real-time customer information and communication. The KONE Care for life

concept focuses on long-term, customer-specific needs covering the whole life cycle of the equipment." (2006, 18)

Offering performance edge

"KONE gives a performance edge to its customers with innovative services and solutions." (2006, 4)

Miscellaneous:

"The efficiency of modernization operations has increased, thanks to the growing popularity of industrialized packed solutions." (2001, 16)

Outsourcing Services (Selling performance/value) key themes

Long-term service contracts/Selling performance

"KONE is introducing performance-based maintenance to the market. Behind this concept is a basic change in business philosophy: customers should pay for the reliability and availability of their equipment, not for service visits. KONE's responsibility, which was once defined by the number of service visits and the time it took to respond to breakdowns, now becomes optimizing the performance of equipment, enabling us to accurately prioritize our time in order to achieve an even higher level of quality and value for our customers." (1998, 44)

"We continued to streamline our delivery processes and develop our maintenance concepts. Tailored, performance-based maintenance contracts represent a significant step forward." (1998, 5)

"The greatest changes in the way we do business though probably less visible than changes in our product lines - are in our maintenance operations. Instead of traditional maintenance contracts based on fixed number of site visits per year, we have successfully launched KONE Optimum(TM), an offering that guarantees optimum performance, availability and reliability for our customers' escalators and elevators according to the age, condition and usage of each piece of equipment." (2000, 5)

"To meet future challenges and exploit the opportunities offered by new technology, KONE has developed a new service concept. Optimum(TM) is based on the usage and performance of elevators and escalators and aims to ensure the safety and reliability of the equipment under maintenance contract. Customer reaction to the new service has been very positive." (2000, 9)

"In service operations, KONE has concentrated on further development of new performance-based contracts and usage-based maintenance methods." (2001, 15)

"In order to provide more efficient and transparent services, we have pioneered a major transformation in elevator and escalator maintenance culture. Instead of basing our service contracts on a fixed number of visits by KONE personnel, we are guaranteeing optimum performance, availability and reliability consistent with the age, operating condition and usage of each installation. These KONE Optimum(TM) contracts -supported by 24-hour call centers, open 365 days a year, and real-time remote monitoring services - provide building owners and tenants with unparalleled safety and peace of mind." (2001, 5)

"The objective of KONE's maintenance operations is to shift the focus to a service that integrates equipment maintenance through continuous surveillance of the equipment and provision of the correct preventative maintenance. The popularity of the KONE Optimum™ maintenance contract, which was developed to achieve this objective, increased during the year under review. Information about the usage and functioning of an elevator or escalator can be monitored by the KoneXion™ remote monitoring system." (2002, 8)

"The trend among larger international customers, such as hotel chains, continues to be toward contracts that cover all or many of their elevators and escalators. *By increasing the share of performance-based maintenance contracts and the harmonization of processes through IT support systems, service business margins were maintained.*" (2003, 19-20)

"Maintenance: The KONE eOptimum™ maintenance contract provides proactive, performance-based service and continuous monitoring of the elevator." (RAP2004, 36)

People Flow™

*(Mission)*2007: "KONE's vision is to offer the best people flow experience by developing and delivering solutions that enable people to move smoothly, safely, comfortably and without waiting from one place to another."* (2007, 2)

*(Mission)*2010: "KONE's vision is to create the best People Flow™ experience."* (CCR2010, 14)

"KONE's strategy is to deliver a performance edge to its customers by creating the best user experience with innovative people flow solutions." (2007, 2)

"We have extended our customer focus to include user experience." (CCR2008, 4)

"Our maintenance and modernization services must ensure 24/7 uninterrupted people flow throughout a building's life cycle." (2009, 20)

"KONE Strategy: KONE delivers a performance edge to its customers by creating the best user experience with innovative People Flow solutions." (2009, 17)

"Given both our achievements so far and the challenges we perceive in our operating environment, we have defined a new set of development areas for the coming three years. These are: customer experience, employee engagement, innovative solutions for People Flow, service leadership, and delivery chain excellence." (CCR2010, 5)

"Our objective is to offer the best People Flow® experience by developing and delivering solutions that enable people to move smoothly, safely, comfortably, and without waiting, in buildings within a rapidly urbanizing environment." (CCR2011, 2)

"We aim to create value for our shareholders, deliver the best People Flow® solutions to our customers, provide our employees with training and development opportunities, and build long-term and mutually beneficial relationships with our suppliers." (CCR2011, 3)

People Flow™ (+Customer-orientated approach)

"People Flow gives us a direction for developing our offering to meet our customers' needs and enables us to offer, deliver and maintain complete solutions. *Adopting a People Flow mindset marks a shift from product-driven organization to a more customer and end-user driven approach.*" (2009, 20)

Customer-orientated approach

"We aim to understand what customers value in order to further improve and strengthen our relationship with our customers." (2009, 10)

"KONE systematically studies what end users need when they are moving within a building in order to understand how our solutions and services can deliver the best possible user experience." (CCR2010, 24)

"In addition to choosing a suitable solution from the award-winning KONE design collections, we can work closely with our customers to create a customized design based on a wide selection of materials and components." (CCR2010, 25)

"In November 2010, KONE established a new Customer Experience unit to support its efforts to become the industry leader in customer loyalty." (CCR2010, 19)

Customer-orientated approach (+People Flow™)

"To help us realize KONE's vision of creating the best People Flow™ experience, we continually strive to expand our understanding of customers' needs." (CCR2010, 14)

Offering performance edge

"Our strategy is to deliver a performance edge for our customers by offering innovative, cost-competitive, and eco-efficient solutions that move people with ease, safety, and comfort." (CCR2011, 8)

Life cycle thinking

"We help our customers design, build, and install the appropriate equipment and keep the equipment in safe working order through maintenance programs and modernization solutions. *This life cycle approach creates added value for customers and provides KONE with a strong foundation for stable growth.*" (2009, 50)

Trend to outsource operations

"Some of the products made and installed by KONE are serviced by third parties." (FS2008, 63)

Miscellaneous:

Service area's defensive effects on company's economy

"A significant part of KONE's sales consist of services which are very labor intensive. If the increases in labor costs cannot be transferred to prices or the productivity targets are not met, the profit development of the group will be affected adversely." (2007, 25)

"An expanded service sector can provide KONE Materials Handling with a more stable cash flow, a stronger buffer against fluctuations in the economy, and a head-start towards improving its return on capital employed." (2002, 5)

"A significant part of KONE's sales consist of services which are less susceptible to the effects of an economic recession." (FS2008, 4)

"A significant part of KONE's sales consists of services which are less susceptible to the effects of economic cycles, but which are very labor-intensive." (FS2010, 6)

"A significant part of KONE's sales consists of services which are less susceptible to the effects of economic downturn." (FS2008, 63)

"Our service business provides stability in a volatile business environment. KONE will continue the strong development of its maintenance and modernization businesses." (CCR2008, 15)

"Additionally, the development was particularly good in maintenance and modernization. I see good additional potential in these less cyclical service business activities during 2009." (CRR2008, 4)

"The maintenance business, which is less cyclical by nature, provides stability to the more cyclical new equipment market. This brings stability to KONE's economic performance in the long term. While the maintenance and modernization markets were increasingly competitive in 2009, KONE succeeded to grow and develop its services further." (2009, 52)

"The order book length and maintenance base give the company, to a certain extent, time to respond to changes in the business environment." (2009, 52)

"Maintenance, although highly competitive, is less vulnerable to fluctuations in the market environment than the new equipment and modernization businesses, and is thus another factor that provides stability for KONE's business in a challenging economic environment." (CCR2011, 13)

"KONE Modular Based Maintenance is optimized for each equipment and usage profile." (2009, 22)

KoneCranes

Product and Service Supplier (Producing added value) key themes

The current situation of service area

"Instead, the crane industry emerges as a sophisticated products and services business, where only those that produce the right technology and the right services can survive." (2000, 5)

"New technology offers opportunities for new efficient products and methods for service." (2000, 6)

Customer-orientated approach

"Along with launching the new wire rope hoist a crane configurator, cxtcrane.com, was made available for customers who access the configurator through the web. The crane users themselves design their crane based on individual performance criteria." (2000, 9)

How service sector has grown and how it grows

"Our maintenance base (cranes under maintenance contract) covers approximately 190 000 cranes, by far the biggest amount in the world. Of these, less than 25% have been built by us." (2000, 20)

Expanding service offering

"We are also involved in the maintenance of "non-crane" machines. We have found that our business model, with its focus on preventative maintenance, is equally well suited for other maintenance work as well." (2004, 11)

Organizational change from a manufacturer to a supplier of services (+Expanding service offering)

"R&D efforts have increasingly focused on developing preventive maintenance services and advanced service tools. Special attention in 2005 was given to remote maintenance technology and enhancing reporting capabilities." (2005, 12)

Miscellaneous:

Service area's defensive effects on company's economy

"KCI Konecranes growing maintenance services business is less sensitive to cyclical swings." (2000, 3)

Solution Supplier (Service agreements) key themes:

The current situation of service area (+Long-term service contracts)

“KCI Konecranes provides maintenance for all crane makes in the market of industrial overhead cranes and harbor and shipyard cranes. Over 75% of the cranes in the maintenance agreement base are not KCI Konecranes-branded.” (2000, 11)

“The service agreement base includes more than 208,000 cranes.” (2002, 5)

“More than 292,000 units are under maintenance contract, of which approximately 25 percent are manufactured by Konecranes.” (2007, 4)

“More than 359,000 units are under maintenance contract, of which approximately 25 percent are manufactured by Konecranes.” (2008, 6)

“Approximately 410,000 units are covered by Konecranes maintenance contracts, of which approximately 25 percent are manufactured by Konecranes.” (2011, 3)

The current situation of service area (+How service sector has grown and how it grows + Long-term service contracts)

“We perform regular maintenance on approximately 190,000 cranes on the basis of long term service contracts.” (2000, 11)

Life cycle thinking

“We offer a complete range of preventive maintenance services and expertise. Our customer relations last long, often throughout the entire life cycle of the crane.” (2002, 12)

Life cycle thinking (+Single supplier mode)

“Our business is to provide thoroughly modern lifting equipment, modernisation and maintenance services, generating the lowest costs over the lifetime of the equipment and the best possible performance. Our customers benefit from using a single-source supplier for all their crane-related needs.” (2004, 2)

Single supplier mode

“Our business concept is to provide a wide range of lifting equipment, modernization and maintenance services for overhead handling applications. Our customers benefit from using a single-source supplier for all their crane-related needs.” (2003, 3)

“The solutions provided by Konecranes’ business areas complement each other and enable customers to meet most of their lifting needs through one supplier.” (2009, 11)

Trend to outsource operations

A general trend within industry to concentrate on whatever is the customer’s core industrial activity, and to outsource non-core activities. Crane maintenance is a typical object for outsourcing.” (2000, 11)

“Today’s equipment is of a complexity that requires special skills. Crane owners more often than before have to rely on outside experts.” (2000, 12)

“KCI Konecranes’ main driver for organic growth is its maintenance services business. Increasingly, crane owners choose to outsource their crane maintenance for better cost efficiency.” (2001, 3)

“Also, many crane users understanding the cost benefits of outsourced services have joined us as maintenance customers.” (2002, 10)

“Crane maintenance, and maintenance in general is often seen as a noncore activity and becomes the target for outsourcing, creating a lasting growth environment for the supply of maintenance services.” (2003, 17)

Trend to outsource operations (+How service sector has grown and how it grows)

“Outsourced maintenance is a genuine growth business. This was again clearly demonstrated in 2002, when, in spite of decreasing customer plant utilisation rates, the Group managed to grow its Field Services orders with 12 %.” (2002, 16)

Long-term service contracts

“The average money value of maintenance agreements per crane grew even faster, with 19,0% as a consequence of focusing more towards larger process cranes.” (2000, 13)

“KCI Konecranes marketing approach of combining maintenance services and new cranes has always helped the Group to better than-average growth.” (2000, 20)

“Maintenance services: Over 80% of the cranes in the service agreement base, not originally manufactured by KCI Konecranes.” (2001, 5)

“Maintenance services: World’s largest service organization with 190,000 cranes in the service agreement base.” (2001, 5)

“KCI Konecranes’ R&D enjoys the benefits of the world’s largest maintenance agreement base with information on both own and competitor equipment.” (2004, 8)

“Several strong long-term service contracts were established with major companies, such as Exxon, First Energy, and Shell.” (2005, 12)

“In the Nordic countries, service accounts for a high percentage of sales and a significant part of the service business is based on long-term service contracts.” (2010, 20)

Long-term service contracts (+Trend to outsource operations)

“Our cornerstones are a highly skilled work force, long-lasting customer relationships in the form of ongoing maintenance agreements and growth through increasing outsourcing of maintenance.” (2004, 10)

“The cornerstones of our Maintenance Services strategy are a highly skilled work force, long-lasting customer relationships in the form of ongoing maintenance agreements and growth through increasing outsourcing of crane maintenance.” (2003, 16)

Long-term service contracts (+How service sector has grown and how it grows)

“The order backlog also increased in the other Business Areas, and the number of cranes under maintenance agreement developed in a favourable way. The average monetary value of maintenance agreements per unit increased significantly.” (2000, 22)

“Maintenance Services form long-lasting customer relationships, in the form of ongoing maintenance agreements with customers. Today, over 200,000 cranes contractually receive regular maintenance. Contracts are normally ongoing, with annual adjustment clauses. Our contract customer retention rate is high.” (2002, 14)

“The Maintenance services agreement base developed favourably both in terms of units and in value. The number of cranes in the contract base increased by 12% year-on-year to 208,270 cranes at the end of 2002.” (2002, 16)

“The value of the maintenance agreement base grew with approx. 6% and the value of the maintenance agreements base per unit grew with approx. 7%.” (2001, 15)

Long-term service (+Customer-orientated approach)

“Today, we are asked by our customers in engineering industries to include also their production machineries in addition to cranes into our maintenance agreements. Previously known as Plant maintenance, we have now adopted a new name underlining our focus on engineering: Machine Tool Maintenance, or MTM.” (2003, 17)

Total Solution provider

“SMV’s complementary product portfolio and extensive dealer network strengthens KCI Konecranes position as a global complete solutions provider in harbours, intermodal terminals and in the shipping industry.” (2004, 5)

Total Solution provider (+Long-term service contracts)

“Our crane company network operates in close co-operation with our maintenance operations as a total solutions provider, everywhere in the world. Increasingly, Special Cranes’ orders originate from maintenance contracts.” (2001, 24)

Customer-orientated approach

“Our maintenance services technicians make some 1.5 million service calls each year. Each service technician acts as a potential crane sales representative. In keeping the customer’s cranes operative our service technician must understand the customer’s business.” (2002, 10)

Customer-orientated approach (+Total Solution provider)

“KCI Konecranes takes high priority in thoroughly understanding the challenges of each customer's underlying business. By providing the right solution for the customer, the company can build strong customer partnerships.” (2002, 11)

Customer-orientated approach (+Offering performance edge)

“The information gathered from our service operations of around 265,000 cranes, supplements the understanding of equipment behavior in different conditions and allows us to provide taylor-made lifting solutions that result in increased efficiency, life-time related crane safety, and productivity gains for our customers.” (2006, 18)

Organizational change from a manufacturer to a supplier of services (+Total Solution provider + Life cycle thinking + Increasing/adding value)

“*Konecranes moved from selling products to selling solutions some time ago.* We’re now taking this process one step further and selling smart solutions that include software and automation to give customers the highest lifecycle value.” (2009, 27)

Miscellaneous:

Service area’s defensive effects on company’s economy

“KCI Konecranes’ large Maintenance Services business constitutes business stability with only limited exposure to cyclical market swings.” (2001, 4)

“Maintenance Services is our motor for organic growth. An activity with less cyclical variation compared to our other activities. Maintenance Services proved its dynamic nature also in 2003.” (2003, 8)

Outsourcing Services (Selling performance/value) key themes

Total Solution provider (+Increasing/adding value)

“By combining our service knowledge and new technologies, we create lifting solutions that maximize value to our customers. We minimize downtime and optimize the total cost of ownership.” (2006, 11)

Trend to outsource operations

“Customers have also continued to show a growing interest in outsourcing their maintenance needs.” (2010, 58-59)

“Furthermore, customers are paying greater attention to productivity and profitability, which is increasing the trend for outsourcing non-core businesses such as maintenance.” (2008, 15)

Expanding service offering (+Life cycle thinking + Increasing/adding value)

“Business Area Service put a lot of emphasis on developing and launching new products in 2009. Remote monitoring services were introduced, for example, offering 24/7 reliability services on call at all times and productivity and performance services designed to ensure the maximum life cycle value for lifting solutions.” (2009, 15)

Expanding service offering (+Long-term service)

“Konecranes launched the first service products in the TRUCONNECT® remote services product family. The TRUVIEW® remote data monitoring and reporting service collects actual usage data from cranes through a remote connection. TRUCARE® is a five-year full service contract built around the TRUVIEW service. TRUEFFICIENCY Basic remote service – an online production monitoring service – is available for Machine Tool Service (MTS).” (2011, 4)

Expanding service offering (+Life cycle thinking + Increasing/adding value +Customer-orientated approach +Offering performance edge)

“Konecranes launched the new TRUECONNECT remote services family in 2011.TRUECONNECT services are based on a remote connection between equipment and the Konecranes Remote Center. Remote services enable Konecranes to help its customers improve the safe use of their equipment, provide the right maintenance at the right time, and assess the lifecycle of crane components. This results in higher efficiency, as maintenance can be planned to match the actual usage and condition of cranes.” (2011, 15)

Customer-orientated approach (+Offering performance edge)

“Remote services are an important step in moving Konecranes closer towards its vision of knowing in real time how its customers’ equipment performs and using this knowledge to benefit customers.” (2011, 15)

Long-term service

“Konecranes Service’s broad maintenance contract base and emphasis on long-term contracts and a high level of customer satisfaction gives the Group a strong base for future development, even when faced with a potential economic downturn.” (2011, 15)

Miscellaneous:

Customer-orientated approach

“Konecranes’ three business areas are interlinked by a high degree of synergy. Every service customer relationship creates sales opportunities for the other business areas. Also, every crane sold creates opportunities for providing service.” (2006, 11)

Metso

Product Supplier (Producing machinery) key themes:

The current situation of service area

“Metso Corporation’s research and development is focused, in line with the Corporation’s strategy, on automation and control technology, and process know-how. A future challenge for technology development will be to allocate sufficient resources to new, innovative areas.” (1999, 8)

“Innovative research and technology development (RTD) is essential to ensure Metso’s competitiveness and new business potential. Metso’s RTD is focused, in line with its strategy, on process know-how and automation and control technology.” (2000, 70)

Product and Service Supplier (Producing added value) key themes:

Organizational change from a manufacturer to a supplier of services

“We are expanding our scope from machine manufacturer to comprehensive supplier of services and the customer’s core processes.” (2001, 47)

“An organization previously oriented for new equipment production is being adapted for the prevailing market by emphasizing the aftermarket and maintenance business.” (2003, 11)

Organizational change from a manufacturer to a supplier of services (+Increasing/adding value)

“Metso is expanding from a traditional machine supplier to a comprehensive supplier of services and the customers’ core processes. We focus on improving the efficiency, quality and competitiveness of our customers’ core processes by supplying valueadding solutions and services based on our strong R&D, engineering and manufacturing skills.” (2001, 16)

Organizational change from a manufacturer to a supplier of services (+Life cycle thinking)

“Metso is thus widening its scope from being a supplier of machines and equipment to being a comprehensive expert in customers’ production processes, providing products and services for all stages of their life cycles.” (2001, 18)

Organizational change from a manufacturer to a supplier of services (+ Offering performance edge)

“Metso Future Care implements Metso’s vision: from a supplier of machinery to a supplier of competitiveness.” (2001, 17)

Organizational change from a manufacturer to a supplier of services (+Offering performance edge +Increasing/adding value)

Metso’s strategic goal is to transform from an equipment supplier to a provider of solutions and process optimization. We want to create added value for our customers by improving the productivity, quality and competitiveness of their core processes. (2002, 18)

Expanding service offering

“Metso opened service technology centers in Wuxi, China and in Beloit, USA and made a decision to set up two new service technology centers at Järvenpää and Oulu, Finland. The strengthening of the service network is part of the Corporation’s strategic Metso Future Care business concept. The contribution of service operations to net sales grew significantly with the acquisition of Svedala.” (2001, 8)

“Metso’s Strategy: development of know-how and aftermarket services for the large population of machinery, equipment and processes delivered by Metso.” (2001, 16)

Expanding service offering (+Organizational change from a manufacturer to a supplier of services)

The forming of a separate Service business line as of the beginning of 2006 enables a more focused range of aftermarket products and services to be developed. (2005,10)

Increasing/adding value

“According to Metso’s strategy, Metso Engineering supports Metso’s core businesses. A key goal is the establishment of lasting partnerships with customers by means of value-enhancing solutions.” (2000, 82)

Life cycle thinking

“We develop and provide products and services that improve the competitiveness and profitability of the processes throughout their life cycle.” (2001, 16)

“Life cycle business refers to the development of solutions that help customers to maximize the economic benefit from their processes throughout the life cycle of their machinery and equipment.” (2003, 15)

Life cycle thinking (+Offering performance edge +Expanding service offering)

“In Europe and North America, the biggest growth potential is in machine rebuilds and aftermarket operations; in these areas, we are developing new products and services to improve our customers’ competitiveness. In addition our extensive installed base continues to create opportunities to develop new life cycle services.” (2004, 3)

Current situation of service area

“We maintain or otherwise service only about one third of the machinery and equipment that has been delivered by Metso.” (2001, 16)

“(Metso Minerals) Two thirds of net sales come from equipment deliveries and one third from maintenance services and sale of wear and spare parts.” (2000, 80)

“In line with our strategy, we continued to focus on aftermarket and maintenance services, the demand for which remained good. Their share of Metso’s net sales grew to 33 percent.” (2002, 9)

“The fact that each of our segments has a business line focusing specifically on the services business indicates the importance this focus area will continue to have.” (2011, 22)

“(Mining and construction technology) Wear and spare parts account for some 85–90 percent of the net sales of the services business; maintenance and other expert services account for about 10–15 percent.” (2010, 56)

How service sector has grown and how it grows

“(Metso Papers) Know-how and aftermarket services are an important and growing part of Metso Paper’s operations.” (2001, 22)

“The share of aftermarket and maintenance services in Metso’s net sales was 33 percent. Metso aims to increase this share considerably.” (2002, 14)

“We aim to increase the installed base that is under our maintenance, as at the moment we provide maintenance or other services to only one third of the machinery delivered by Metso.” (2002, 19)

“Metso’s main goal is to improve profitability. The company aims to achieve this by improving cost-efficiency and by increasing the share of aftermarket services in net sales.” (2002, 19)

Total Solution provider (+Expanding service offering +Customer-orientated approach)

“In 2001 Metso chose four areas, closely related to the needs of customers, as the focal areas for the Metso Future Care business concept. Firstly, development of maintenance and aftermarket service concepts for the primary needs of customers. Secondly, development of maintenance solutions and process upgrading with the aid of new methods based on remote diagnostics. Thirdly, development of knowledge-based services related to the preparation and implementation of customer investments. Fourthly, development of customer-specific services so that customers gain a consistent picture of Metso as a total service provider.” (2001, 8)

Offering performance edge

“At the end of October, Metso Automation opened the first remote diagnostics center in Tampere, Finland. The process experts at the center have the option of continuous online connection with customers’ pulp mills in order to control and optimize the process. Continuous connection with the customers’ processes enables predictive maintenance operations, rapid feedback and reaction to possible disturbances, which results in greater cost efficiency and savings for the customer due to the decrease in maintenance downtime.” (2001, 31)

Customer-orientated approach

“At the same time, we are transforming ourselves into a leading customer-oriented and serviceoriented player in our field, able to take full advantage of our versatile expertise for the good of both customers and shareholders.” (2002, 9)

How service sector has grown and how it grows

“The aim is to increase the net sales of the aftermarket business by over eur 100 million in 2006–2008.” (2005, 10)

“Our services business has grown from a EUR 1.4 billion business in 2004 to over EUR 2 billion last year, accounting for about one third of our 2007 net sales and even more of our profits.” (2007, 6)

“Our target is to increase our services business by over 10 percent annually.” (2007, 13)

“(Metso Paper) We strengthened our services business through corporate acquisitions.” (2007, 25)

“We have significantly strengthened our services business in the past few years. Today more than one third of our net sales and more than one half of our operating profit come from services business.” (2008, 2)

“In fact, in ten years Metso has evolved into a truly global company with flexible operating models. Our services business has doubled to over two billion euros.” (2009, 5)

“We are continuously pursuing new growth opportunities for our services business, both in traditional and emerging markets.” (2009, 13)

“We aim to grow our market share also by servicing and maintaining the installed base delivered by our competitors.” (2011, 11)

How service sector has grown and how it grows (+Organizational change from a manufacturer to a supplier of services)

“(Mining and construction technology) The new organization we introduced in July 2009 supports these goals. The Services business forms a separate business line with a mission to further develop our already strong services offering for the mining and construction industry.” (2009, 39)

Life cycle thinking

“Metso Minerals is responding to growing demand for aftermarket services by developing life cycle services.” (2005, 38)

“We offer our customers services that cover the entire life cycle of a product or service.” (2010, 24)

Life cycle thinking (+Offering performance edge)

“(Metso Automation) We offer our customers services to cover the entire life cycle of their production processes and ensure good availability and enhanced performance.” (2007, 33)

Trend to outsource operations

“We estimate that the outsourcing of our customers’ repair and maintenance services will offer us significant opportunities.” (2009, 17)

Miscellaneous:

Service area’s defensive effects on company’s economy

“Maintenance, spare parts and other knowledge-based services also increased their share of net sales. These factors will also make the Corporation’s profitability less cyclic.” (2001, 16)

“In general, the profitability of Metso’s aftermarket and maintenance services is better than that of new equipment and machinery deliveries. Increasing the relative share of aftermarket and maintenance services is expected to improve Metso’s profitability.” (2002, 12)

“The profitability of the services business is clearly better than that of project and equipment sales.” (2009, 9)

“The markets for the services business, which are mainly driven by customer capacity utilization rates, are more stable than the markets for new equipment.” (2011, 30)

Solution Supplier (Service agreements) key themes:

Long-term service contracts/Selling performance

“Metso Minerals made a comprehensive service agreement with CVRD for several years, covering the maintenance of the mining process and the training of operating personnel.” (2004, 23-25)

“Metso Paper’s objective is to conclude long-term service agreements with these customers, in which the main responsibility for process service is transferred to Metso Paper.” (2005, 22)

“We have also made long-term service and maintenance agreements with our customers, and they reduce the effects of the business cycles.” (2006, 23)

“With these customers, Metso Paper’s objective is to enter into long-term service agreements that transfer the main responsibility for process maintenance to Metso Paper.” (2006, 23)

“Our goal is to conclude long-term service agreements on as many of these new equipment and lines as possible.” (2007, 14)

“(Metso Minerals) To support the growth of our services business, we aim for long-term service agreements with our mining customers.” (2007, 30)

“(Mining and construction technology) We also signed a multiyear service agreement with AngloGold Ashanti Iduapriem Mine in Ghana including the maintenance management services and technical support as well as hands-on training.” (2009, 58)

“(Paper and fiber technology) In emerging markets we offer our customers long-term maintenance and other service agreements already during the start-up of new projects. Offering expert services close to customer is critical in terms of competitiveness.” (2010, 60)

“In the spring of 2011, we signed an extensive multi-year life-cycle services contract with Russian Copper Company. The contract includes equipment maintenance, planning and operational support, process and product support services, as well as wear and spare parts and components. We are supplying the equipment, maintenance and operational support for this project and continuously monitoring equipment performance and efficiency.” (2011, 11)

Long-term service contracts/Selling performance (+Life cycle thinking)

“In order to further reduce the risks of business cycles, Metso has actively promoted process life cycle-related operations and long-term partnerships with customers.” (2005, 22)

Long-term service contracts/Selling performance (+Offering performance edge +Expanding service offering)

“Our wear and spare parts business forms a solid basis for our services offering. We have, however, further expanded the services business scope beyond the traditional “aftermarket” concept to include even maintenance agreements, and also process agreements through which we will help customers optimize the use of their equipment. To further boost services growth, we are continuing to innovate new business concepts and service products.” (2007, 7)

Long-term service contracts/Selling performance (+Life cycle thinking +Offering performance edge)

“Metso Paper signed several extensive cooperation agreements for the annual maintenance and service development of paper and pulp making lines. These cooperation agreements aim for long-term improvements in production line functionality, paper quality and cost efficiency. The agreements are based on the Metso Future Care business concept, which optimizes the lifecycle efficiency of production lines.” (2002, 25)

How service sector has grown and how it grows

“In fact, our goal is to grow the services business share of total net sales and to reach a situation where the services business accounts for over 40 percent of net sales at the peak of a business cycle and for as much as 60 percent at the bottom of a cycle, when the share of project and equipment business is low.” (2010, 22)

Life cycle thinking

“In 2003, Metso Paper refocused its operating strategy and transferred to a new operating model, which offers products, solutions and aftermarket services to customers’ production processes throughout their entire life cycle.” (2003, 17)

“Our goal is to deliver process and equipment life-cycle services locally around the world. Long-term customer relationships, the high performance and durability of our products, and a track record of successful solutions of demanding applications are the foundation for our leading market position.” (2008, 15)

“(Mining and construction technology) Our goal is to serve our customers over the entire product life cycle – from the initial process or equipment delivery to the continuous optimization and maintenance of the customer’s process.” (2009, 39)

“(Energy and environmental technology) In addition to technology, we offer our customers life cycle services for products and production processes as well as in-depth application know-how.” (2009, 43)

“(Mining and construction technology) Our mission is to serve our mining and construction industry customers throughout the product life cycle – from the initial delivery of the process or equipment to the continuous optimization and maintenance.” (2010, 56)

“We have a deep understanding of customer processes and a broad range of life-cycle services to optimize those processes. A life-cycle services contract gives the customer access to our extensive process knowledge and experience.” (2011, 11)

Expanding service offering

“Developing service packages is part of the development of our services business.” (2010, 24)

Trend to outsource operations

“Although the pulp and paper industry has been cautious in outsourcing maintenance, demand for these services is expected to increase.” (2004, 12)

“We have increased the flexibility of our cost structure by outsourcing and by focusing our own operations on the manufacture and assembly of core components in particular.” (2006, 23)

“Our customers have started to increasingly outsource some of their functions, thus improving our business opportunities, especially in the services business.” (2011, 5)

Single supplier mode

“More and more often pulp industry customers expect one supplier to deliver turnkey solutions for pulp production.” (2005, 32)

Organizational change from a manufacturer to a supplier of services

“Our aim is to transform from a product-focused company to a service company, and to strengthen the position of the aftermarket business throughout Metso.” (2006, 1)

“(Paper and fiber technology) We have also shifted our product development focus from new products to support for services business growth.” (2009, 47)

“In over a decade, we have transformed from a traditional machine supplier to a major services supplier.” (2010, 21)

“Consistent with our goal, we have evolved from an equipment supplier to an expert and services company.” (2010, 22)

Organizational change from a manufacturer to a supplier of services (+Expanding service offering)

“Our goal is to transform from a product-oriented company to a service-oriented company. This will require that the status of the aftermarket business is strengthened throughout Metso and the best possible competencies are used to develop aftermarket business concepts and new service products.” (2006, 10)

Miscellaneous:

Service area`s defensive effects on company`s economy

“In order to further reduce the risks of business cycles Metso has actively grown process life cycle related operations and long-term partnerships with customers, as well as increased the flexibility of the cost base through outsourcing and focusing on the manufacture and assembly of core components.” (2004, 42)

“Metso`s aim is to make long-term supply contracts to reduce the effects of short-term price volatility or availability issues.” (2005, 25)

“Also demand for new equipment tends to be more affected by business cycles than the demand for services, which we are proactively aiming to increase.” (2007, 18-19)

Outsourcing Services (Selling performance/value) key themes:

Trend to outsource operations

“Outsourcing of industrial maintenance has become a rapidly growing trend in developed countries.” (2008, 13)

“We estimate that the aging of the workforce in developed markets and the difficulty in finding skilled experts in emerging markets will lead to more and more customers choosing to outsource maintenance and other expert services.” (2010, 23)

Long-term service contracts/Selling performance

“The billing for our service agreements is often based on wear or spare parts sold, number of hours worked or, e.g., tons produced. Our aim is to make more and more service agreements that target on the production reliability of the equipment or production plant or the quality of the end product. In these agreements, the benefits and also the risk related to plant performance are shared between us and the customer. Right now, these types of agreements represent only a small fraction of the services business net sales, but we aim for increasing the share of these agreements gradually as the scope of the services business becomes more comprehensive.” (2010, 24)

“Level 4 Service package: -The customer and Metso set shared targets for the development of the machine, equipment or process. -The customer and Metso work together at the customer`s site. -Metso is responsible for the productivity and maintenance of the machines, equipment and processes as well as management of capital assets. -New technology solutions as a part of machine, equipment or process development.” (2009, 25)

“(Mining and construction) The majority of our services business is related to wear and spare parts. Our customers are becoming increasingly interested in our performance solutions.” (2011, 30)

Wärtsilä

Product Supplier (Producing machinery) key themes:

"The distribution of Sanitec shares in spring 2000, and the sale of the Assa Abloy shares are part of Wärtsilä's strategy to concentrate on engineering." (2000, 7)

Product and Service Supplier (Producing added value) key themes:

Expanding service offering

"Further sales are generated by extending the scope of operations beyond engine service to include, for example, maintenance of other machinery and equipment, eg. electrical systems, in diesel plants." (2000, 30)

"In line with our efforts to broaden our services to the shipping community we acquired the marine service activity of Deutz AG in January 2005." (2004, 13)

"Service focused on developing new service products and accelerating deliveries." (2002, 4)

"Wärtsilä will expand this business by providing innovative, reliable and valuable service, such as non-OEM service in key ports, scheduled and condition-based maintenance and condition-based maintenance, as well as operations and maintenance contracts. (2004, 10)

Trend to outsource operations

"Changes in the nature of the service business have generated new opportunities for Wärtsilä. Customers are increasingly outsourcing their maintenance and operations services." (2000, 30)

"We will further boost this business by taking service responsibility for increasingly parts of our customers' operations." (2005, 9)

Single supplier mode

"Wärtsilä will act as the prime contractor to shipyards and shipbuilders, offering them total marine power systems including design and project management services." (2000, 22)

Broadest service offering

"Wärtsilä Services supports its customers by offering the broadest scope of services in the industry, therefore optimising their operations and product lifecycle." (2009, 25)

"Our competitive advantage lies in having the broadest offering in the industry. This offering is backed by the capability to build environmentally sound solutions and by the best service support throughout the lifecycle of the product." (2011, 32)

Miscellaneous:

Service area's defensive effects on company's economy

"Services will continue to create a stable platform for growth." (2008, 14)???

*(Mission) *2001: "We contribute to solving the global needs of sea transportation and power generation by developing equipment and services that convert fuel into power efficiently and with the lowest possible environmental impact." (2001, 6)*

Wärtsilä Corporation is the leading global ship power supplier and a major provider of solutions for decentralized power generation and of supporting services." (2000, 2)

Solution Supplier (Service agreements) key themes:

Total Solution provider

"In response to this trend Wärtsilä has shifted the emphasis in its business from engine delivery to total systems customized for individual customers." (2000, 22)

"In giving full and seamless to Wärtsilä's business the HR function will need to focus further on the skills and competences needed to change the company into a solutions and full-service provider." (2001, 15)

"At the time the Group enhanced its strategic position as a supplier of complete marine power systems and the importance our service increased." (2000, 6)

"Accompanying this trend is a general desire on the part of shipbuilders to purchase total product and service packages such as complete cabins, galleys and propulsion systems instead of subcontracting individual products and services." (2000, 22)

"Wärtsilä's total service concept includes maintenance and recondition, operation and training." (2003, 17)

"In December Wärtsilä acquired the German ship design company group SCHIFFKO." (2006,10) "The acquisition supports Wärtsilä's strategic focus to grow as a system integrator and provider of total solutions to the shipping and shipbuilding market." (2006, 10)

"The acquisition of Total Automation Ltd was part of the company's strategy to strengthen its position as a Total Service supplier." (2006, 37)

"The latest addition to our portfolio is the Boiler Services which further improves Wärtsilä's competitiveness as a leading total services provider." (2008, 22)

"During recent years, Wärtsilä Services has taken an important step in its strategy to become a total solutions provider by adding Automation Services to its offering." (2008, 22)

"Wärtsilä has all the necessary solutions in its portfolio: automation, machinery, propulsion, and ship design. By combining these with a solid knowledge of customer operations and treating them as an integrated solution, a truly efficient ship operation can be achieved. We constantly strive to develop products and solutions that are more operationally efficient and cost effective for the entire ship concept." (2009, 19-20)

"Our goals: Services: To further improve our competitiveness as a total service provider and to seek growth through global geographical presence." (2008, 10)

"Boiler Services: Wärtsilä Boiler Services further strengthens our position as a leading total services provider." (2010, 41)

"Wärtsilä is the leading provider of ship power solutions, including ship design, engines, generating sets, automation and power distribution systems as well as sealing solutions for the marine industry." (2008, 5)

"In the future, integrated services will play an even bigger role in our business." (2009, 7)

"As a solution provider, we are ready to deliver everything from a single product to entire lifecycle support, from initial building to operational use, of complex systems powering ships." (2011, 41)

"The possibility to outsource an entire power and propulsion system as a package has also been recognized among the emerging shipyards as a toll to gain competitive edge when combined with low labour costs in shipbuilding. Proven solutions packages enable them to reach the same technology level and credibility as the conventional players." (2005, 13)

"The main drivers for the development of Wärtsilä solutions are future emissions legislation, fuel availability and price fluctuations, as well as increasing customer needs for more complete solutions rather than separate products." (2010, 30)

Total Solution provider (+Offering tailored solutions)

d"Wärtsilä has shifted the emphasis in its business from engine delivery to total systems customized for individual customers" (2000, 22)

Total Solution provider (+Offering tailored solutions)

"As a total business supplier Wärtsilä needs to understand its customer's business in order to supply the systems ideally suited to each customer's needs. Through reliable and cost-efficient total solutions Wärtsilä's aim is to enhance the performance and profitability of its customer's businesses." (2000, 22)

Total Solution provider (+Single supplier mode)

"Under the terms of the agreement Wärtsilä will act as the prime contractor to shipyards and shipbuilders, offering them total marine power systems including design and project management services." (2000, 22)

Total Solution provider (+Life cycle thinking)

"Automation services support total solutions provider strategy: Acquiring, integrating and developing automation companies has been a step in Wärtsilä's strategy to become a total solutions provider as services broaden the scope of supply to customers and Wärtsilä gain better control of its value chain from design to lifecycle support." (2006, 13)

Life cycle thinking

"We aim to support our marine and power plant customers throughout the lifetime of their equipment with high-quality service, operation and maintenance." (2001, 8)

"We are the only company with a global service network to take complete care of customers' ship machinery at every lifecycle stage." (2003, 8)

*(Mission) *2006: "We provide lifecycle power solutions to enhance the business of our customers, whilst creating better technologies that benefit both the customer and the environment."* (2006, 9)

"Wärtsilä's Total Service strategy, therefore, is to add value to its customers' business by maximizing the performance, availability and reliability of the power system during its entire lifecycle." (2003, 16)

"Service takes care of an installation during its lifetime." (2004, 20)

"Our well-developed Service business, which consists of spare parts, field service, and maintenance and operations agreements, ensures that our customers can count on excellent availability and reliability throughout the lifetime of their plants." (2005, 6)

Life cycle thinking (+Offering tailored solutions)

"We combine service solutions with new equipment sales into lifecycle solutions meeting the specific needs of our customers." (2010, 18)

Long-term service contracts/Selling performance

"Wärtsilä is expanding its service business by providing innovative services that support its customers' business, service for several engine brands in key ports, long-term service contracts, predictive and condition-based maintenance, and operations and maintenance contracts." (2003, 3)

"Wärtsilä's aim, accordingly, is to increase the volume of its service operations based on agreements." (2000, 30)

"Maintenance is focusing on the lifecycle of the products as thinking has shifted from reactive to proactive maintenance meaning more predictive measures and long-term agreements." (2000, 30)

"The volume of long-term service agreements, especially O&M agreements, showed a further strong increase." (2001, 28)

"Wärtsilä plans to move from selling individual maintenance services to sales of overall operation and maintenance service agreements. This would require Wärtsilä taking responsibility for an entire power plant, for example, guaranteeing its customer a certain number of megawatt hours of operation annually. Such customer would not then require their own operating personnel, nor would they need to be concerned with service or maintenance at the plant. Wärtsilä already has O&M agreements at more than 80 power plants and this number has increased strongly in recent years. O&M agreements free customer to concentrate on their core businesses." (2001, 30)

"The marine and offshore sectors still clearly prefer the traditional business of spare part sales and engine service." (2001, 31)

"Another growth area is operations and maintenance (O&M) services for the entire power plant." (2000, 30)

"In both the marine and power plant sector Wärtsilä is focusing on longterm service agreements and full operations agreements in addition to the comprehensive everyday service support." (2002, 27)

"Operations and Maintenance: A Wärtsilä O&M agreement means that we take care of everything from recruitment, training and management of the O&M staff, to energy production, logistics and other services. An O&M agreement brings production performance guarantees and financial predictability, giving owners a predictable and stable O&M cost profile over the years." (2003, 16)

f"Service agreements are the most effective way to ensure the reliable and environmentally sustainable operation of a product, as well as traceability and risk management." (2006, 102)

"It is expected that, as in land-based power plants, an increasing number of larger-scope operations & maintenance contracts will be signed for ships and even entire fleets in the future." (2005, 11)

"The market for Operations & Maintenance (O&M) and Long-term Service Agreements (LTSAs) is relatively unexploited, and the demand for outsourcing is increasing. Wärtsilä's strategy is substantial

growth in the O&M and LTSA business, especially in the Marine sector where Wärtsilä is presently developing new concepts to meet the requirements of the market." (2005, 17)

"For our power plant customers, operations and management agreements are more common, and we are responsible for ensuring that installations meet the set performance targets and lifetime criteria, freeing owners to concentrate on their core business." (2007, 22)

f"Approximately 40% of new equipment sales in Power Plants include a service agreement. Although the shipping industry generally doesn't operate on completely outsourced service agreements, Wärtsilä is prepared to offer these services as the industry develops in this direction." (2007, 22)

"More than 50 percent of the new power plant capacity installed by Wärtsilä in 2010 was accompanied with long-term operational agreements." (2010, 2)

"Long-term operations and management agreements, which earlier were virtually non-existent in the shipping industry, are today widely discussed. I am pleased to note that some of the world's undisputed leaders in shipping have signed such agreements with our Service division." (2010, 4)

"We will grow by providing more service agreements with new Ship Power and Power Plants deliveries." (2011, 55)

Offering tailored solutions

"Since different vessels require different systems Wärtsilä tailors each solution to its customer's needs." (2002, 19)

"As a total service provider Wärtsilä needs to understand its customer's business in order to supply the systems ideally suited to each customer's needs. Through reliable and cost-efficient total solutions Wärtsilä's aim is to enhance the performance and profitability of its customers' businesses." (2000, 22)

"Wärtsilä offer tailored, reliable and cost-effective ship machinery, propulsion and maneuvering solutions, coupled with the worldwide network of service companies that support extensive support throughout the lifecycle of the vessel. This enables to contribute to optimizing its customer's business performance and profitability, while ensuring that not only the system's functionality but also the environmental aspects are handled according to the customers' expectations." (2004, 15)

"Wärtsilä tailors its solutions to the precise needs of its customers by optimizing the entire ship machinery, propulsion and control system." (2006, 96)

"Our global sales and service organisation gives us the ability to engage our customers locally, and through a thorough understanding of our customers' business and their needs, we can offer them optimally tailored solutions." (2008, 25)

Single supplier mode

"Wärtsilä Services has consistently developed its product portfolio through innovation and acquisitions. Customers today have a unique opportunity to obtain the largest range of services from a single source all around the world." (2006, 102)

"By choosing Wärtsilä as a single supplier, ship builders can concentrate on their core competence areas and significantly reduce the risk of interface problems compared to machinery supplied from different sources. From the shipowners' point of view the single supplier approach gives benefits in terms of operation and maintenance on board the ship. In this case, for example, better fuel efficiency or operating flexibility can be obtained." (2005, 13)

"There is no a competitor with the ability to provide such a broad supply of offering from one single source." (2007, 21)

*"Wärtsilä has no direct competitors that offer similar portfolio of services from a single source." (2006, 13)
"Being the only player in the market able to provide such a wide range of solutions from a single source strengthens noticeably our competitive position. The size and scope of the Services business creates stability in a changing market environment and provides a platform for future growth." (2009, 8)*

"Being the only player on the market able to provide such a wide range of solutions from a single source, our competitive position is notably strengthened." (2011, 55)

Single supplier mode (+Increasing/adding value)

"Our ability to combine the products we offer into larger systems and solutions supports our strategy of being the sole ship power supplier to our customers. This strategy provides added value to both of our customer groups despite their differing priorities." (2010, 24)

Single supplier mode (+Offering tailored solutions + Life cycle thinking)

"Lifetime support from one supplier: For ship-owners a single supplier system gives benefits in terms of operation and maintenance onboard the ship as well as the availability of extended lifetime support for the entire system. It also enables a higher degree of integration, which brings greater benefits in terms of fuel efficiency, reliability, environmental friendliness, operational flexibility, maneuverability, and lower noise and vibration levels than is usually achieved by considering individual items of machinery on their own. This approach calls for the power and propulsion systems to be tailored exactly to the customers` requirements, a task Wärtsilä a proven ability to perform." (2004, 17)

Single supplier mode (+Total Solution provider)

"Our ability to combine the products we offer into larger systems and solutions supports our strategy of being the sole ship power supplier to our customers. This strategy provides added value to both of our customer groups despite their differing priorities." (2011, 31)

Increasing/adding value

"Co-operation with customers and suppliers creates added value for the entire supply chain, as well as for the end customer. Identifying and achieving common goals succeeds best through co-operation with the whole supply chain." (2010, 113)

"By combining our integrated solutions and ship design knowledge, we are able to create increased value for our customers. Participating in the planning and designing phase allows us to better understand customer needs and thereby establish a stronger competitive position." (2011, 31)

Increasing/adding value (+Offering tailored solutions + Life cycle thinking)

"Our shipdesign capabilities enable us to offer our customer optimised, highly efficient solutions, creating growth opportunities in lifecycle services as well as added value for our customers. By participating in the planning and designing phase, Wärtsilä is able to understand customer needs better and thereby establish a stronger competitive position." (2009, 18)

Customer-orientated approach

"Wärtsilä will continue to develop its service portfolio in close co-operation with its customers. New opportunities are created by the fact that customers are continuously looking for new means of cost reduction and efficiency improvement." (2010, 210)

Miscellaneous:

Service area's defensive effects on company's economy

"Whereas new equipment sales in Ship Power and Power Plants tends to be somewhat cyclical, the Service business provides a stable platform for growth." (2007, 21)

"The size and scope of the Services business creates stability in a changing market environment and provides a platform for growth. " (2011, 55)

"Here again, Wärtsilä's involvement in ship design enables the achievement of truly optimised solutions." (2010, 28)

Service area's defensive effects on company's economy (+Total Solution provider)

"The concept of selling packaged solutions rather than merely single products reduces price volatility. Being a systems integrator with automation and ship design capability will prove to be even more important in the future." (2010, 210)

Service area's defensive effects on company's economy (+Broadest service offering)

"Both end markets consist of several customer segments for Services. Therefore downturns with specific vessel segments or geographical areas should not significantly affect Services. Also, Wärtsilä's portfolio is the broadest in the market and offers various sources of revenues, which also limits exposure to market fluctuations." (2008, 98)

Outsourcing Services (Selling performance/value) key themes:

Trend to outsource operations

"Customers are increasingly outsourcing their maintenance and operations services." (2000, 30)

"The recession also creates new possibilities for Services as customers want to reduce fixed costs through increased outsourcing. Wärtsilä will develop its service portfolio accordingly." (2009, 53)

"Today an important driver for the power plants after market is the trend towards outsourcing the operations and management of the power plants. In the future, we believe this will become a more important driver also for the marine markets. Wärtsilä offers efficiency and monitoring solutions for these needs." (2010, 15)

"Outsourcing of operations and management is today an important trend in the power plants service market. In the future, we believe this will become a more important driver also for the marine markets. Wärtsilä offers efficiency and monitoring solutions for these needs." (2011, 53)

Long-term service contracts/Selling performance

"When making an operations & maintenance contract, the customer knows in advance how much energy generation will cost in the long term." (2003, 20)

"Operation & maintenance agreements, in which Wärtsilä takes full control of the offered solution, ensure optimal performance of the installation." (2010, 42)

"To limit risk, yards and owners tend to be very conservative in introducing new concepts. *Wärtsilä is stepping into this opportunity by offering integrated solutions for which performance guarantees can be given, thereby lowering the threshold for yards and operators to implement more sustainable solutions."* (2010, 27)

Increasing/adding value

"During the year Wärtsilä acquired the global ship design group Vik-Sandvik and Conan Wu & Associates Pte Ltd (CWA) in Singapore. *By combining ship design capability with its existing offering in propulsion systems and automation, Wärtsilä is able to provide more added value to its customers.*" (2008, 6)

Customer-orientated approach

"Our goal is to offer services based on customer needs. We focus, therefore, on developing close relationships with our customers, thus enabling us to gain an in-depth understanding of their business, and extending our offering accordingly." (2010, 41)

Miscellaneous:

Service area's defensive effects on company's economy

"The Services business, representing 35 percent (40) of group turnover, has proven to be resilient to the financial downturn. A strong global presence, new service products and concepts combined with a broad installed base have all helped Services to maintain its business at good level of the previous year." (2009, 1)

"The size and scope of the Service business creates stability in a changing market environment and provides a platform for future growth." (2010, 18)