



## Service transition strategies of industrial manufacturers

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### ARTICLE INFO

#### Article history:

Received 18 July 2010  
Received in revised form 18 March 2011  
Accepted 24 March 2011  
Available online 8 June 2011

#### Keywords:

Service  
Service transition  
Solution  
System  
Solution selling

### ABSTRACT

Manufacturers are increasingly adopting service based strategies to maintain competitiveness in the face of commoditization, slower growth, and declining profitability in core product markets. The objective of this study is to explicate the transformation process towards services in more detail. We find that manufacturers develop product related services through a dedicated service division designed to exploit the commercial opportunities of servicing an installed base of equipment. At the same time, the strategy of integrated solutions is utilized to enhance the competitiveness of their core product offering under industry conditions which make it difficult to maintain competitive advantage purely through technological leadership. These logics are investigated through case studies of two industrial manufactures.

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### 1. Introduction

The global economy is increasingly driven by services and growing service intensity among manufacturers has been noted as key to sustained competitiveness in the face of commoditization, slower growth, and declining profitability in core product markets (Fang, Palmatier, & Steenkamp, 2008; Spohrer & Maglio, 2008; Vargo & Lusch, 2004; Wise & Baumgartner, 1999). This empirical reality has contributed to growing academic interest in so called “service transition strategies”—a term coined by Fang et al. (2008) to describe literature concerned with explaining service transformation processes of manufacturing firms. Despite considerable efforts, research in the field remains fragmented thereby leading to an incomplete understanding of actual product-service integration and delivery among manufacturers (Antioco, Moenaert, Lindgreen, & Wetzels, 2008). For instance, it is not clear how product manufacturers move beyond basic product related services to more advanced ones with a higher differentiation potential (Antioco et al., 2008). It has also been noted that growing service intensity among product manufacturers should not be seen as a one-dimensional effort to transform manufacturing organizations into service-oriented firms, but rather as a delicate balancing act in which multiple business logics must coexist (Windahl & Lakemond, 2010).

To contribute to this important and emerging research stream, the purpose of this study is to provide a more holistic understanding of the service transformation process among industrial manufactures. To do so, we conduct in-depth case studies of two global manufacturers

operating in the metal engineering sector to explore the ways in which these manufacturers exploit different types of service intensive strategies. We furthermore investigate the solutions selling concept as a promising alternative through which to transition towards advanced services while building on and strengthening the competitiveness of the firm's core product manufacturing operations. These different perspectives on service and solution innovation help to clarify and extend existing research in the field, so as to produce a more accurate portrayal of the organizational logics and challenges involved in managing a transformation towards greater service intensity among industrial manufacturers.

### 2. Service transition strategies: a conceptual review

The purpose of this section is to outline different types of service transition strategies available to manufacturers on a continuum from basic to advanced, and then to discuss the concept of solutions as a potentially powerful alternative through which to transition beyond basic product related services.

#### 2.1. The service transition logic

The services stream of the literature acknowledges the growing importance of service strategies due to financial, marketing, and strategic considerations. In terms of financial benefits, substantial revenues can be gained from servicing an installed base of products with a long life cycle (Knecht, Leszinski, & Weber, 1993; Potts, 1988). Services also have higher margins than products (Anderson, Fronell, & Rust, 1997) and provide a more stable source of revenue as they are more resistant to fluctuations in the economic cycle (Quinn, 1992). In terms of marketing benefits, a service orientation can help to sell more

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products (Mathe & Shapiro, 1993). More specifically, product service strategies have been found to influence overall client satisfaction (Burger & Cann, 1995), to facilitate new product adoption (Frambach, Ward, Hutt, & Reingen, 1997), and to strengthen the client's confidence and the supplier's credibility (Hawes, 1994). Also, Vandermerwe (1994) emphasizes that clients want to take advantage of the supplier's know-how to derive more value connected with the use and performance of products. As for strategic considerations, competitive strategy based on services is thought to form a more sustainable source of competitiveness. For one, technological superiority is increasingly more difficult to maintain (Grönroos, 1990). At the same time, maintaining overall cost leadership is often not possible (Zeithaml & Bitner, 1996). Therefore, a service based strategy is thought to provide an attractive possibility due to the more intangible and difficult to copy nature of services (Anderson & Narus, 1995; Oliva & Kallenberg, 2003).

### 2.1.1. Types of service transition strategies

Within the service transition literature, it is noted that services can take many forms. For instance, a distinction is made between traditional services such as after-sales services and more advanced ones (Cespedes, 1994). It is argued that while traditional services continue to be important, manufacturers should also consider more advanced services to meet customer expectations and to fully exploit downstream opportunities (Burger & Cann, 1995). Mathieu (2001) classifies these different types of services as those which support the supplier's product (SSP) and as those which support the client's action (SSC). SSP are product services designed to ensure proper functioning of the product and/or to facilitate the client's access to the product. Examples of SSP include product maintenance, installation, monitoring, and repair. SSP are fairly standardized and demand low relationship intensity. SSC, on the other hand, are "services as a product" which customers can buy without purchasing the tangible product. Examples of SSC include financing, process-oriented training, and business-oriented consulting. SSC entails high relationship intensity between the seller and buyer, a high level of customization, and an emphasis on people as recipients. According to Oliva and Kallenberg (2003), transitioning to services can best be understood as moving along a continuum. The most advanced stage is achieved when the focus of the value proposition shifts away from product functionality towards the product's effectiveness in the end user's process.

### 2.1.2. Organizational challenges related to a service transition

As new types of capabilities are needed to transition towards advanced services, manufacturers' traditional advantages tend to diminish rapidly once they move beyond basic services tied to the product. At this point the firm will face more competition from professional service organizations such as consulting firms without being able to rely on knowledge spillovers from manufacturing operations (Antioco et al., 2008; Markides & Williamson, 1996). Consequently, Gebauer, Beckenbauer and Fleisch (2004) find that margins on SSC are typically less than for SSP.

At the same time, it is argued that basic services are core skills and resources that are required to participate in the market (Matthyssens & Vandenbempt, 2008). They act as an entry barrier, but do not provide a sustainable source of competitive advantage (Levitt, 1981; Matthyssens & Vandenbempt, 1998; Wagner, 1987). Thus, companies that want to differentiate themselves must provide advanced services that offer superior value through customization and proactive sensing of client expectations (Matthyssens & Vandenbempt, 2008). In other words, firms must transition towards services tied to the customer's process (Mathieu, 2001). While this transition is expected to be difficult to realize, Fang et al. (2008) suggest closer investigation of solutions selling as a potentially attractive service strategy which, through the integration of products and services, ensures synergistic spillovers

between service and core product operations thereby facilitating the manufacturer's transition towards growing service intensity.

## 2.2. Solutions

Given the potential effectiveness of solutions selling to contribute to a service transition, this strategy is discussed in more detail. The concept of solutions has developed through an independent stream of research. It has roots in the so called systems selling approach whereby product marketers began to expand their offerings into product systems thus assuming responsibility for integrating pieces of capital equipment into larger functional systems (e.g. Hannaford, 1976; Mattsson, 1973; Page & Siemplenski, 1983). In more recent literature, the term system is taken to refer to a physical product system, which is the result of a technical engineering-based task, whereas a solution also consists of strategic and consultative business activities (Davies, Brady, & Hobday, 2006). For the purposes of this study, we define solutions as "individualized offers for complex customer problems that are interactively designed and whose components offer an integrative added value by combining products and/or services so that the value is more than the sum of the components (Evanschitzky, v.Wangenheim, & Woisetschlager, 2011-this issue)".

### 2.2.1. Different types of solution providers

Within the general category of solutions, it is possible to identify different types of solution providers. Essentially, solution providers can be systems sellers or systems integrators (Davies, Brady, & Hobday, 2007). The systems seller is highly integrated vertically and responsible for system design, interface and component specifications, product development, production of individual components, the integration of components into a system, and the provision of services to operate and maintain a system over its life cycle (Davies et al., 2007). The systems seller mode of operation is more consistent with the traditional notion of solutions as integrated product systems whereby internal control over system components enables superior 'fit' resulting in greater interfacing efficiency and optimized performance (Page & Siemplenski, 1983).

The systems integrator, on the other hand, is a prime contractor responsible for designing and integrating externally supplied product and service components into a customer specific solution. This model emphasizes the advantages of specialization and modularity in component supply, standardization of interfaces, and the ability to specify and integrate multi-vendor sources of technology and product supply. Such an approach emphasizes the ability to build and manage external networks of partners that can be mobilized around solution delivery (Windahl & Lakemond, 2006; Davies et al., 2007).

A complementary perspective has been proposed by Raddats and Easingwood (2010) who distinguish solutions based on the vendor orientation of the provider. Vendors can essentially provide solutions based on their own products or in the form of vendor agnostic solutions whereby competitors' products can be integrated as part of the solution. The vendor agnostic approach recognizes the need for solution providers to shift from product to customer centric in the sense that they should try to find the best possible solution for the customer, instead of trying to sell as many products as possible (Galbraith, 2002). This may require recommendation of competing products if this is in the customer's best interests. However, Kowalkowski (2005) sees this as the most radical form of customer centricity and deems it to be an ill-suited approach for companies with strong engineering and R&D capabilities.

Despite the high potential of solutions to add to customer value, the strategy is not easily implementable (Johansson, Krishnamurthy, & Schliessberg, 2003). More specifically, firms attempting a transition must "transform almost every aspect of the way they do business — from their business strategies and positions in the value stream, to their capabilities, organizations structures, cultures, and mindsets

(Brady, Davies, & Gann, 2005)". We briefly discuss these challenges in the subsequent section.

### 2.2.2. Organizational challenges related to solutions selling

In terms of cultures and mindsets, a solution orientation is usually seen to imply a change in attitudes and conventional ways in thinking. The required changes in culture and attitudes are sometimes discussed in terms of a shift from goods to a service dominant logic (Vargo & Lusch, 2004). A goods dominant logic implies a view whereby goods (tangible output embedded with value) are the primary focus of value in exchange and services are seen as an add on that enhance the value of a good. The service dominant logic, in contrast, implies "a process of doing something for another party" (Vargo & Lusch, 2008). In this view, the offering is co-produced with the customer in an interactive process of needs definition and refinement. The ultimate aim of the firm is to assist customers in their value-creation processes and tangible goods serve as appliances for service provision rather than as ends in themselves. Managers who have been reared up in product based organizations have learned to excel at designing and manufacturing superior products, and managing the processes involved in making and selling them (Brady et al., 2005). Getting them to shift mindsets and to develop the needed capabilities to function under service based logic thus represents a concrete management challenge.

Emphasis on greater customer orientation and co-creation processes has recently led to a more relational perspective on solutions (e.g. Tuli, Kohli, & Bharadwaj, 2007). Accordingly, solution selling can be understood as "a relational process comprising the definition of the customer requirements, customization and integration of goods and services, their deployment, and post-deployment customer support" (Evanschitzky et al., 2011-this issue). In this process, emphasis should be placed on understanding of the customer's broader business needs and operating environment, and finding ways to better link with these processes. Transforming the capabilities at the customer interface is expected to be one of the most critical challenges involved in transitioning towards solutions (Johansson et al., 2003).

In terms of structural issues, it has been noted that firms must change their organizational structures to accommodate for integrated solutions. As noted by Woodward (1965, p. 71), particular forms of organization are appropriate for each system of production. Whereas large batch and mass production systems tend to have mechanistic types of management structure, unit and small batch systems have organic structures. If one conceptualizes solutions as individualized offers for complex customer problems (Evanschitzky et al., 2011-this issue), it seems likely that project based organizations are a more suited method of organizing around solutions thus necessitating organizational separation.

Finally, solution providers tend to prefer the development of customized solutions tailored to individual customer needs since uniqueness is at the core of solutions thinking and forms the basis for the value proposition. However, offering customized solutions for each customer is expensive and often not enough to guarantee long term growth and profitability. Thus, solution providers must learn to build solutions that are scalable. It is often possible through product modularization and standardization to develop unique solutions that are composed of fairly standardized modules and components (Mattsson, 1973; Page & Siemplenski, 1983). In the very minimum, the processes used to develop solutions must become routinized (Davies & Brady, 2000).

### 2.3. Service transition strategies of industrial manufacturers

Based on a review of existing literature in the field of service transition strategies, one can deduce that research in the area is extensive, but disaggregated. While the literature is unanimous in pointing to the importance of building greater service orientation in industries characterized by slow growth, product commoditization,

and high cyclicity (e.g. Fang et al., 2008; Wise & Baumgartner, 1999), the details of this transformation remain less clear. This is particularly the case in the industrial manufacturing sector where firms must strike a balance between their core product manufacturing operations and growing service intensity (Windahl & Lakemond, 2010). In the context of this study, we are particularly interested in understanding the way in which manufacturers exploit different types of service intensive strategies ranging from those tied to the product (SSP) to those tied to the customer's process (SSC), as well as the organizational alternatives and challenges related to managing this transformation. These issues will be investigated in detail through two in-depth case studies of industrial manufacturers to provide a more integrated perspective on the service transition logic within the industrial manufacturing sector.

## 3. Methodology

Consistent with the suggestion by Antiocho et al. (2008), the aim of this study is to develop a better understanding of actual product-service integration and delivery among manufacturers through a qualitative orientation that relies on an integrated theoretical approach and is focused on a limited number of industry segments. In terms of a qualitative orientation, we rely on the case study methodology, which has been recognized as a suitable method for the study of complex, real life phenomena such as strategic changes or reorganizations (Gummesson, 2000; Yin, 2003). As for theoretical integration, we draw on the more general literature stream related to service transition strategies (Fang et al., 2008) and then complement this with a focused perspective on solution selling, so as to generate a more complete understanding of product-service integration. To provide for contextual understanding, we have chosen to study the phenomenon in the context of the industrial manufacturing sector.

More specifically, we rely on two in-depth case studies of global manufacturers operating in the metal engineering sector. As mentioned by Cova and Salle (2007), globalization and the resultant more rapid commoditization of products have put high pressure on prices, which is seen as a major factor that explains the emergence of service intensive strategies such as solutions. Global companies that operate in industries which are weakly protected by local barriers to competition tend to face such pressures more severely and should be at the forefront of developing organizational adaptations to cope with them.

The cases of Wärtsilä and Kone were chosen because of their strong service orientation and also because of the possibility to gain unique access. Wärtsilä and Kone are both industrial manufacturers of capital equipment that are headquartered in Finland, but operate globally. Both firms are strong actors within their respective industries and can thus be assumed to depict successful strategic adaptations to their surrounding operational environments. Wärtsilä is a manufacturer of ship power equipment including engines and propulsion equipment. Kone manufactures elevators, escalators, and automatic doors. Both firms have undergone a strategic reorientation towards provision of services and solutions. Access was gained through involvement of the case firms in a multiyear research project aimed at investigating firm competitiveness in global, highly competed industries.

Altogether 33 interviews have been conducted at these firms with positions of informants ranging from manager to division head. Company representatives have attended seminars and workshops to discuss project findings. The interviews at these firms were recorded and transcribed. Each interview lasted between 1 and 2 h. 13 out of the total 33 interviews focused particularly on service transition strategies while the other interviews belonged to the larger overall project and were designed for the purpose of gaining an enhanced understanding of the strategic posture and competitive environment of these firms. The extensive interview rounds conducted at these firms enabled the development of background understanding through

which to place the service transition strategies of the case firms within the context of the firm's overall strategy and operating environment (Gummesson, 2000). To protect the anonymity of respondents, we simply indicate the respondent's level of seniority and the firm in question in connection with direct quotations.

The research process utilized in this study is best described as abductive. Key to the abductive approach is recognizing that forming an understanding of a phenomenon is an intuitive and iterative process that occurs in recursive interplay with deduction and induction in order to form theoretical insights (Locke, 2010). Abductive research is fittingly described by Dubois and Gadde (2002) under what they term "systematic combining"—an approach that advocates continuous movement between the empirical and model world. During this process, the research issues and the analytical framework are reoriented against evolving findings from the empirical world. For instance, the author's initial interest was primarily on the strategy of integrated solutions as a way to enhance firm competitiveness under challenging industry conditions, but through research it became apparent that this strategy is best understood in the context of a more extensive service transition process. Thus data collection and analysis has occurred in stages and earlier findings have directed successive phases. The data has been categorized and analyzed manually according to emergent conceptual frameworks or themes (Yin, 2003). Primary importance has been given to understanding the drivers for greater service intensity as well as the organizational alternatives and challenges related to managing this transformation.

#### 4. Empirical findings

This section describes in detail the service transformation processes of Wärtsilä and Kone. We first provide short case summaries. This is followed by a closer analysis of different types of service strategies offered by the firms, and the logics and organizational configurations for applying them, as well as a section highlighting key issues related to implementation.

##### 4.1. Overview of the case firms

###### 4.1.1. Case Wärtsilä

Wärtsilä is a Finland-based global provider of power solutions for the marine and energy markets. The firm has net sales of approximately 5 billion Euros and is composed of three divisions: Ship Power, Power Plants, and Service. In 2009 each of these divisions accounted for roughly 1/3 of sales. The findings reported in this study concern the firm's ship power division and related service operations.

Since the late 1990s Wärtsilä has worked to develop into a provider of complete lifecycle power solutions. This strategy was motivated by the fact that the shipbuilding industry has rapidly relocated to Asia which raises concerns over the development of competitors with the ability to offer lower cost products. Wärtsilä has traditionally based its competitive advantage on technological leadership and still considers this to be its core capability. At the same time, it believes that enhanced customer value and improved competitive position can be achieved through a strategy of life cycle solutions.

*We are seeking on the other hand a more extensive product portfolio and packaging of the existing portfolio... Then, on the other hand, we are also trying to develop our service portfolio from spare part service to large scope operator contracts. (Vice President A, Wärtsilä)*

The ship power division's most important product group has traditionally been its medium speed diesel engines where the company is the global market leader with close to 40% global market share. As part of its strategy of integrated solutions, the company has considerably grown its product portfolio and competences through acquisitions of related businesses in propulsion and ship automation.

This portfolio has been grown in a way that improves the firm's ability to offer integrated ship power solutions. The company's solutions can be sold as one integrated package consisting of the engine, propulsion equipment and related control and automation systems, which ensures interface compatibility and reduces customer risks. The company's solutions have been designed to optimize life cycle performance, for instance in the form of greater fuel efficiency, environmental friendliness, and operational reliability. Closely linked to Wärtsilä's solutions strategy has been further development of its ability to offer life cycle services to the installed base of products and solutions. The company has consistently grown its global service infrastructure both through organic growth as well as acquisitions.

###### 4.1.2. Case Kone

Kone is a Finland-based global provider of elevators, escalators, automatic doors and related services. In 2009 the company had annual net sales of close to 5 billion Euros and is among the top four manufacturers in its industry. In 2009 new equipment sales accounted for roughly the same proportion of sales as service.

Similar to Wärtsilä, the firm defines itself as a technological leader. However, due to increasing industry maturity the technological gap between Kone and its competitors has been diminishing. Moreover, Kone believes that new innovations, when developed, are more rapidly diffused to competitors than before. Thus, the firm's future competitiveness cannot rest solely on technological leadership.

*There comes a point of time when technology is so mature that it's very, very difficult to do a real innovation in technological terms... Companies, they start to think about that well, but we have other types of innovations too, not just technological. (Vice President, Kone)*

As a consequence, Kone has redefined itself as a provider of people flow and access solutions. The firm's aim is to enhance the ability of building users to move smoothly, safely, comfortably, and without delays in buildings. What this means is a greater reorientation around customer processes and priorities. To support this reorientation, Kone has invested extensively in enhancing its understanding of end user experience and behavior, as well as the processes and priorities of the direct buyer — usually the building developer. As a result, the company has been able to develop offerings that better link with these processes. For instance, the firm has developed elevator designs that are available for use already in the construction phase of the building thus speeding up and simplifying the construction process. To enhance the end user's experience, Kone has for instance developed an elevator concept for residential buildings that recognizes the user and enables the user to enter the building and arrive at their home door without opening any doors or pressing any buttons.

The newly adopted approach is in opposition to the firm's old product-centered culture where product technologies and product features were seen as key. The company believes that the new, more customer centered approach enables it to develop more innovative products and solutions, and to sell them more effectively. Kone also relies very heavily on product life cycle services as part of its overall service transformation process and has been consistently growing its service infrastructure.

##### 4.2. Product services vs. solutions: logics and organizational configurations

The service transformation strategies of both Wärtsilä and Kone have proceeded along similar logics. On the one hand, both firms recognize the importance of further strengthening product related services aimed at capitalizing the commercial potential that exists in servicing the installed base. Both firms have a separate service division for this purpose. The service division drives the growth and

profitability of the respective firms and performs an important function in steadying revenue streams against industry cyclicality:

*On the new build side we can't make big profits, but it's in a broad sense a service business. (Vice President A, Wärtsilä) Our activity today almost starts from product maintenance. It's the stable part, brings the capability to manage through recession times without sales and profitability plummeting. (Executive Vice President A, Kone)*

Despite increased emphasis on life cycle services as a driver for growth and profitability, product manufacturing operations remain crucial for both firms. While in the past competitiveness of the products rested on technological excellence and product leadership, the firms have come to realize that value can also be enhanced by changing the business model to customer centric solutions. The solutions business is closely integrated within the firms' product manufacturing operations. Complex, large scale projects requiring high customization are handled by dedicated global project teams that support the local sales force in solution delivery.

As part of the transformation towards integrated solutions both firms have grown the types of capabilities traditionally associated with services in support of the client's actions. Wärtsilä has for instance acquired ship design offices that have traditionally acted as external consultants in systems design and integration. Kone has developed capabilities in visual design, traffic planning, project planning, and specification analysis.

Neither firm provides vendor agnostic solutions in terms of integrating competitors' products into their solutions. Beyond that, Wärtsilä and Kone have adopted somewhat different modes. While both firms resemble more the systems seller rather than systems integrator, Wärtsilä has emphasized more heavily the benefits traditionally associated with the systems seller mode such as the benefits of control over the system components that accrue from internal manufacturing operations. Accordingly, the company has actually acquired more products into its portfolio beyond its base in engines. Kone, on the other hand, has not grown its product scope, but has grown its ability to integrate into building access and control systems whereby more complete solutions can be delivered in collaboration with partners. The difference seems to stem from the more modular nature of Kone's products whereby system interfaces are easier to coordinate with third parties. Also, the systems provided by Wärtsilä are extremely business critical as a ship is not operational if the propulsion system is not functioning. Thus, Wärtsilä aims to minimize risks by having internal control of critical components.

#### 4.3. Key organizational challenges

The service divisions at both firms have been very successful in building product related services linked with the installed base. However, transforming into a solution provider is seen to present more critical challenges. These relate roughly to issues of organizational culture, and what we have termed as building of external effectiveness at the customer interface and achieving internal efficiency of operations.

##### 4.3.1. Cultural reorientation from products to solutions

While for both firms the transition towards a solution orientation represents an important development path, currently a fairly small percentage of the firms' total turnover comes from large scale solutions requiring extensive customized engineering. Instead, both firms emphasize that the transformation represents first and foremost a change in orientation away from product focus towards greater sensitivity to customer needs. This is seen as a huge undertaking, not only because of the need to develop new capabilities, but also because of a cultural shift that is required:

*Creating the competitiveness is now starting from the customer. It's a mindset. It's customer centric thinking. In the past it was that the operations were near the customer, but our operations were driven by the factories and technologies... It will take a painful change. You need to train your people to think differently. (Executive Vice President B, Kone)*

Despite increased customer and service orientation, both firms emphasize the continued importance of traditional product and technological excellence, as competitive solutions rest on competitive products and underlying engineering capabilities:

*We can't just sell hot air. It needs to be well engineered, cost benefit solutions. (Manager, Kone) [The products] must be competitive... A typical mistake is that you have a unit where the product's competitiveness has for some reason diminished. You then often start to desperately think what to do and imagine that you can become a solution provider. (Executive Vice President A, Kone)*

Thus, transforming into a solution orientation is essentially a way to complement existing core capabilities in product excellence and technological leadership rather than to replace them or to compensate for lack of such capabilities.

##### 4.3.2. External effectiveness at the customer interface

Both firms emphasize that becoming a successful solution provider necessitates a new way of interacting with the customer. For instance, as emphasized by Wärtsilä, solutions must be sold to decision makers who are able to assess the impact of the solution on the customer's costs, risks, and revenues. It is also important to understand that the value proposition must address the needs of both the direct as well as end customer/consumer. In the case of Wärtsilä, the direct customer is the shipyard and the end customer the ship owner. In the case of Kone, the direct customer is usually the building contractor and the end customer the building user. Also, both firms place critical emphasis on the fact that while a central feature of solutions is customer centricity, such an orientation does not entail doing whatever the customer asks:

*Customer driven is a dangerous phrase... We need to be customer centric... We need to have a dialogue with the customer and not to take the customer requirements as granted... We need to ask several times what is your real need? Why are you asking that? Can we do it easier? Can we do it cheaper? (Executive Vice President B, Kone)*

To be able to have such a dialogue and to be able to deliver optimal solutions for a given need, customers must be engaged with early enough in the purchasing process and the dialogue must be open and intense, even to the point that the customer also adapts their internal processes to accommodate solution development:

*If the sales function is not actively involved in the process then we receive a request for tender. At that point the solution may be entirely wrong for the building and somehow suboptimal for the customer. (Senior Vice President, Kone) The solution concept is more proactive because the idea is not just to design systems that fit the design of the ship, but rather affect the design of the ship, so that the systems will work optimally. (Director, Wärtsilä)*

Furthermore, new capabilities need to be built among the sales force to enable them to interact with the customer under a solutions based logic. This is not an easy undertaking. Partly it is an issue of concrete capabilities and experience, and partly of behavioral qualities and attitudes:

*I believe in a product company the sales process is fairly straight forward. You actually develop people who are very good at working solo... When you talk about systems sales, then it's about how to bring together a team of multiple competences and complementing knowledge into solving a customer problem...so I, to some degree,*

*feel that there are very challenging fundamental differences in personality and behavioral types. (Vice President B, Wärtsilä)*

Thus, building of an effective sales organization capable of solutions sales is a slow and gradual undertaking, which requires not only extensive training, but also selection of people within the company who have a long enough experience and most importantly, who possess the right attitude and behavioral characteristics.

#### 4.3.3. Internal efficiency of operations

Both firms emphasize the importance of building solutions that are not only effective, but also cost efficient. To achieve greater cost efficiency, both Wärtsilä and Kone emphasize that solutions should be as standardized as possible. The degree to which this can be done depends on the solution in question. Some solutions clearly require extensive customization and these projects are undertaken by global project organizations capable of such activities. With such projects, the key is to standardize processes related to project delivery as much as possible. At the same time, many solutions can be completed on a mass customization basis whereby the solution is unique, but consists largely of pre-existing modules:

*If we understand for what situation and for what purpose the equipment is planned for, we can in principle mass customize for the customer a suitable, unique solution. (Senior Vice President, Kone)*

The extent to which solutions can be easily packaged from pre-existing modules depends on the nature of the business. For instance, the products that Wärtsilä sells have not been modularized to the same extent as Kone's due to differences in underlying product architecture. Still, Wärtsilä feels that standardization degree of its products and solutions can be significantly enhanced by better integration into customer processes:

*I would argue that customization often results for being there too late. We haven't been able to influence the customer's decisions at an earlier phase. (General Manager, Wärtsilä)*

## 5. Discussion

Based on the cases presented, it seems that industrial manufacturers in the capital goods industry are increasingly adopting service transition strategies and these strategies largely conform to two distinct, but complementary logics. Firstly, industrial manufacturers offer services to the installed base of equipment through a dedicated service division. These are services in support of the supplier's product (SSP) although both firms have consistently worked to develop more advanced types of product related services such as maintenance contracts based on equipment availability (Oliva & Kallenberg, 2003). The service division in which these activities take place is the most profitable and highest growing part of their businesses. They are also extremely important to steady the revenue streams of these firms. At the same time, Wärtsilä and Kone have increasingly transitioned to services in support of the client's action (SSC) through a strategy of integrated solutions. The goal has been to enhance the competitiveness of the firm's core product business rather than to mark a transition into professional services per se thus ensuring synergistic spillovers between service and core product operations (Fang et al., 2008).

Given the reported difficulties encountered by firms in transitioning towards solutions (i.e. Brady et al., 2005; Johansson et al., 2003), we have also addressed implementation related issues. These relate to instilling a proper organizational culture and mindset, choosing the appropriate mode of solution provision, building of external effectiveness at the customer interface, and ensuring sufficient internal efficiency of operations— factors which were discussed in some length through the

empirical analysis of the cases. Instead of repeating them here, we discuss them in reference to a transition towards the service dominant logic—a shift for which we find support (Vargo & Lusch, 2004).

In terms of cultures and mindsets, the cases point towards growing evidence of a shift among manufacturers from a goods-dominant to a service-dominant logic (Vargo & Lusch, 2004). This view implies recognition that goods in and of themselves do not form the focal point of exchange, but rather perform a service-delivery role in the customer's or user's own value creation processes. Some previous studies have questioned the application of the service dominant logic in the capital goods industry (e.g. Windahl & Lakemond, 2010). This challenge rests on the notion that industrial manufacturers must adopt integrated solutions alongside the established business based on goods and support services. Consequently, interpreting the emergence of integrated solutions as a shift from a traditional goods-centered logic to a service-centered logic has been seen as problematic (Windahl & Lakemond, 2010).

While we fully agree that manufacturers must indeed implement service transition strategies in ways that build on core strengths in product manufacturing operations and related support services, we argue that a shift towards a solution orientation is not inherently incompatible with this need. In fact, the case companies studied here are in no way abandoning their core product manufacturing operations or the emphasis they place on them and related support services as they transition towards solutions, but are rather gradually changing the way in which value creation through products takes place. Thus, firms must move away from a focus on product features towards greater orientation around customer processes, so that value can be added in other ways besides pure technological innovation. As emphasized by the case firms, this is a slow and painful, but nevertheless necessary process to guard long term competitiveness.

In terms of organizational configurations, the mode through which the case firms have chosen to deliver solutions further emphasizes the continued centrality of product manufacturing operations. Despite the notion that the systems seller approach is losing its appeal as a preferred mode of solution delivery (Davies et al., 2007), the case firms reported here resemble more closely a system seller rather than systems integrator. As further evidence of sustained centrality of the firms' product manufacturing operations, neither firm provides vendor agnostic solutions in terms of integrating competitors' products into their solutions despite the notion that such form of solution provision represents the greatest form of customer centricity (Galbraith, 2002).

To support the relational orientation required of solutions and to enable their co-creation (Tuli et al., 2007; Vargo & Lusch, 2004), both case firms have had to learn to interact with their customers in a fundamentally different way than a product centric organization. We have termed this creating external effectiveness at the customer interface. This does not entail taking customer requirements as a given, but rather as a starting point for a process of co-creating the solution (Vargo & Lusch, 2004). This requires also openness and willingness on behalf of the customers to adjust their internal routines thus supporting the notion that successful solutions depend not only on supplier variables, but also on customer variables (Tuli et al., 2007). Such an orientation tends to result in better solutions and helps the manufacturer to build internal efficiency of operations— another key characteristic of successful solution delivery.

To be able to engage in the kind of value co-creation described above, the firm must intimately understand the customer's own value creating processes, both of the direct as well as end customer, sales efforts must be directed at persons capable of understanding how the resultant solution impacts these processes, and interaction with the customer must occur through an extended sales process. Developing such capabilities at the customer interface is extremely difficult and time consuming. It requires extensive training, as well as selection of persons with the correct behavioral characteristics.

In terms of limiting organizational disruption and creating correct structures for solution delivery, both Wärtsilä and Kone undertake large scale projects requiring extensive customization through dedicated global project teams. However, a significant portion of solutions business at Kone and Wärtsilä can be conducted as part of the firms' normal operations with the exception that more emphasis is placed on customer requirements definition, value based selling efforts, and development of products and systems in a direction that enables better integration into customers' technical and/or business processes. Particularly in the case of Kone, the resultant solution can then be configured largely from pre-existing modules— again a feature that enhances internal efficiency of operations.

## 6. Conclusions

Consistent with the suggestion by Antiooco et al. (2008), the aim of this study has been to develop a better understanding of actual product-service integration and delivery among manufacturers through adoption of a qualitative orientation that relies on an integrated theoretical approach and is focused on a limited number of industry segments. To do so, we have conducted in-depth case studies of two global manufacturers operating in the metal engineering sector, so as to explore the ways in which these manufacturers exploit different types of service intensive strategies. More specifically, we have drawn on the general literature stream related service transition strategies to explore how these firms exploit different types of service intensive strategies ranging from basic services in support of the supplier's product (SSP) to more advanced ones in support of the client's action (SSC). Existing literature notes the difficulty manufacturers experience in effectively transitioning to more advanced services in support of the client's action (Antiooco et al., 2008). We have therefore, as suggested by Fang et al. (2008), explored how such a transition can be facilitated by drawing on the separate, but complementary stream of research concerned with solutions selling. These different perspectives on service and solution innovation help to clarify and extend existing research in the field, so as to produce a more accurate portrayal of the organizational logics and challenges involved in managing a transformation towards greater service intensity.

Exploration of these different types of service intensive strategies has also enabled better understanding of how fundamental paradigmatic changes, such as the service dominant logic, apply to the industrial manufacturing sector. Based on the cases studied here, we conclude growing service intensity among product manufacturers to represent an important transformation that supports applicability of the service-dominant logic within the industrial manufacturing sector (Vargo & Lusch, 2004). At the same time, this transformation is multifaceted with separate individual logics at play— the process of which is not well understood (Windahl & Lakemond, 2010). Based on the experiences of the case companies studied, we would argue that industrial manufacturers are in no way abandoning their core product manufacturing operations or the emphasis they place on them and related support services as they transition towards greater service intensity. Instead, these manufacturers engage in a range of product related services to exploit the commercial opportunities of servicing the installed base. At the same time, and consistent with the service-dominant logic, these manufacturers are increasingly adopting a solution orientation to create a gradual change in the organizational mindset, capabilities, and processes regarding how value creation and delivery through products takes place.

### 6.1. Managerial implications

In terms of managerial implications, we would advise managers to carefully consider the service transition logic in the context of their business. The extensive installed base of products characteristic of industrial manufacturers of capital goods provides an attractive base

for product related services. At the same time, many such industries are characterized by slow growth, increasing commoditization, and declining profitability. One option would be to simply exploit the installed base logic and shift emphasis to life cycle services while improving the cost efficiency of product manufacturing operations. However, this may not be a long term solution for companies that want to maintain competitiveness of their core product manufacturing operations. The case firms studied here feel that pure cost based competition on the core product side is not an attractive long term strategy. Thus, a strategy of integration solutions has been adopted as a way to enhance the differentiation potential of the core product business.

At the same time, firms should understand that shifting to a solution orientation is slow and resource intensive as new mindsets, capabilities, and structures must be built. To accommodate for this reality, the change process should start from a position of strength, so that the firm has enough organizational slack to support this strategic redirection. Thus, solution transformation works best when used proactively rather than reactively. Related to this point, and as emphasized by the company respondents, a solution orientation complements excellence in products rather than compensates for relative weaknesses.

### 6.2. Limitations

In terms of limitations, the findings of this study rely on in-depth case studies of two industrial manufacturers operating in the capital goods industry. Thus the findings should be considered as applying primarily to contexts characterized by similar conditions. For instance, a service transition that lacks an installed base logic would probably look rather different. Furthermore, given that the findings are based on two cases, replication across more cases would enhance their generalizability.

## Acknowledgments

The author would like to acknowledge the Finnish Funding Agency for Technology and Innovation for financing this research. Sincerest gratitude is also extended to the interviewed individuals at the case firms, the editors of this special issue, and the two anonymous reviewers for their time and valuable insights.

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