SEEING THINGS DIFFERENTLY

Atos Consulting

TRENDS INSTITUTE

SERVITIZATION IN PRODUCT COMPANIES

Creating business value beyond products

White paper

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PREFACE

In The Netherlands, Maintenance, Repair and Overhaul (MRO) activities have been recognized as prerequisite for vital capital intensive industries, as well as a lever for revenue growth in a globalizing world. The fast growing service business of Dutch maintenance & service providers (e.g. contractors and specialists) and Original Equipment Manufacturers (OEM's, e.g. semiconductor equipment, healthcare systems, high tech systems), also globally acting, were among the key drivers to found the Dutch Institute World Class Maintenance (DI-WCM[1]) in 2010. As elaborated by Marks and Van Kempen (2009) the concrete objectives of this institute - located in Breda, The Netherlands - are (i) to help to improve the asset performance and life cycle costs of installed base in the Netherlands, (ii) ensure that the Dutch turnover in global maintenance and service activities increases (export) and (iii) promote international growth of MRO business executed in the Netherlands (import).

Together with its partner organizations NVDO[2] and Profion[3], World Class Maintenance represents a MRO community of over 300 companies, some 20 universities / vocational schools / professional schools / knowledge institutes and local / regional / national intermediates and authorities. MRO related projects are initiated and supported in 5 industry sectors: Aerospace, Energy, Infrastructure, Maritime and Process. World Class Maintenance follows an integral approach based on Collaboration, Research & Innovation, Business Development and Education. In the period 2006 - 2010 the "maintenance attention" was focused on the asset owners. For the period 2011 - 2015, the scope will be significantly extended to OEM's. World Class Maintenance will work closely together with the High Tech industry.

This white paper fundamentally researches the impact of services for product companies, especially OEM's and the related supplier network, in various stages of business maturity. The authors have succeeded in describing the servitization phenomenon in a practical maturity model and have drawn valuable conclusions. I therefore highly recommend this white paper to board members, corporate decision makers as well as (senior) management and actually everyone with an interest in MRO and service business development.

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WORLD CLASS MAINTENANCE

1. Dutch Institute World Class Maintenance, see www.worldclassmaintenance.com.
2. Nederlandse Vereniging voor Doelmatig Onderhoud, see www.nvdo.nl.
3. Brancheverenigingen voor Professioneel Industrieel Onderhoud, see www.profion.nl.

EXECUTIVE SUMMARY

WHAT IS SERVITIZATION?

It is self-evident that manufacturers of products offer basic 'break-fix' services to convince customers to buy their products. This is especially so in B2B markets, where the product is often used as a productivity tool in the customers' core business processes. In many industries, these service offerings have been extended over time to include more value added service propositions like training, system integration and consulting. Services are being discovered as profitable and stable revenue streams to enhance the commoditizing base product business. Some leading firms even go further. They are adopting a 'solutions' business model, offering customized solutions to clients, where manufacturing no longer is a differentiating process. This process, where services make up a larger part of a product company, is known as servitization.

WHY IS SERVITIZATION IMPORTANT IN B2B PRODUCT COMPANIES?

Customers of capital goods (B2B) are demanding more value from their suppliers. Therefore increasingly suppliers offer value added services to enhance the performance of their core product in the customers' value system. Doing so, suppliers discover that these types of services render new revenue potential. Because the services can be best developed, sold and delivered by the product supplier, there is a lock-in effect resulting in relatively high profit margins. And because services are related to the (large) installed base they suffer less from cyclical economic cycles than the core product business.

WHY DID ATOS CONSULTING INITIATE THIS SERVITIZATION RESEARCH STUDY?

Although the drivers are evident, we have experienced in our consulting practice that clients struggle to develop services as a profitable business. Especially in capital goods, lifecycle services can represent a multiple of the revenues / profits of the initial product sales. The faster a product company develops its services business the more value is created. But failing to do so, can even threaten the business continuity. And despite the value potential, the transformation process also renders some risks. There is evidence that the number of bankruptcies among servitizing companies seems to be higher than average. Understanding both the opportunities, as well as the do's and don'ts helps us to develop our servitization consulting proposition to our customers.

WHAT WAS THE RESEARCH ABOUT?

The key research questions of the Atos Consulting research study are:

> Do product companies develop services according to a Maturity Model over the business life cycle?
> What are the key drivers and inhibitors?
> How do product companies organize their service operations in each stage of the life cycle?

KEY FINDINGS

> Servitization is driven by both external and internal drivers.
> Servitization is a process, developing along a two dimensional services maturity model.
> Success does not come automatically at increasing service maturity levels.
> Surprisingly, the "business model" is not leading the organizational transformation.
> Also "Key Performance Indicators" are lagging behind significantly.
> There are significant thresholds between the various service maturity stages.
> The thresholds increase in height at more mature stages.
> "Management & organization" is the most leading organizational transformation dimension.
> "Processes" and "People & Culture" is also a leading organizational transformation dimension.
> "Information Management" is the least developed organizational transformation dimension.

CONCLUSIONS

> Servitization is real for B2B product companies.
> Servitization is difficult. Many interviewees struggle with defining the transformation roadmap.
> Servitization pays off.
> Servitization is not restricted to the service domain.
> Our Servitization Maturity Model can help to structure and accelerate the transformation.

SERVICES MUST BECOME A STATE OF MIND

Especially at higher servitization maturity levels, services are no longer a department, but must become a state of mind. Many firms that struggle with this transformation process may benefit from this white paper.

“A business absolutely devoted to service will have only one worry about profits, they will be embarrassingly large!”
Henry Ford

WHAT IS SERVITIZATION[4]?

The interrelationship between products and services is fundamentally evolving. Especially in technology driven industries, services are becoming as fundamental to products as hardware and software. The term servitization is used to describe this trend. This is also referred to as the service economy, hybrid value creation or product-service systems. This transition is neither radical nor new. The term servitization was introduced in 1988 by Vandermerwe and Rada. In fact the term can also be applied beyond product organizations. Various studies (McKinsey, 2010; Bureau of Economic Analysis, 2009; and Neely, 2010) have shown that the increase in servitization of propositions and companies is driven by both macro- and microeconomic trends. The macroeconomic trend that the importance of the service sector in industrialized economies increases is undeniable. For instance, services account for a higher percentage of US GDP than 20 years ago. The current list of Fortune 500 companies contains more service companies and fewer manufacturers than in previous decades. In microeconomics, servitization is also used to refer to the increasing relative importance of service in a product offering. Products today have a higher service component. Virtually every product today has a service component to it. The old dichotomy between product and service has been replaced by a service-product continuum. Many products are being transformed into services.

Since the introduction of the concept of servitization by Vandermerwe and Rada, a wide variety of definitions have been proposed in literature, amongst others by Desmet et al. (1998), Slack (2005), Ren and Gregory (2007) and Baines and Lightfoot (2009). What unites these definitions is their focus on the provision of additional services to complement a tangible product offering in order to add value. For this paper we use the following definition.

Servitization

Servitization is a transformation process wherein product companies embrace a service orientation and / or develop more and better services, with the aim to:

(i) satisfy customer's needs;

(ii) enhance the firm's performance;

(iii) achieve competitive advantages.

This definition emphasizes that the fundamental principle of servitization is to understand how the customer (or the customer's customer) will use your product or service in such a way that it increases the value of your proposition. This is easier said than done and requires increased insight into your customer base, their pressure points and business ambitions. Furthermore this definition illustrates that competitive advantages and superior performance are rooted in customer insights. These insights form the basis for a customer relationship that develops from being solely a supplier to being a strategic partner. And product/service improvements built upon better understanding of customer needs and requirements. The ultimate consequence from servitization is that products and services become more integrated, sophisticated solutions.

There are many examples of companies and industries that have been transformed in this way. IBM evolved from a near failing hardware business to a very successful solutions company by embracing servitization.

4. Source: http://www.servitizer.com.

IBM[5]

International Business Machines (nicknamed Big Blue) is a US multinational technology and consulting firm, which was incorporated in 1911 after the merger of three manufacturers of various types of "business" machines. Although IBM is still often referred to as a computer firm - and it still produces some hardware - it regards the physical goods as small parts of the "business solutions" industries. It took IBM about 3 decades of crisis to realize one of the great turnarounds in business history. It consisted of two large scale transformations (in short: form "hardware" to "software" and from "software" to "solutions") to once again be one of the leaders of its industry. The then market leader in computer hardware was not able to realize leadership positions based on two significant trends in the computer industry: personal computers and client-server computing.

Some key elements of the transformation towards software en services consist of:

> With the acquisition of Lotus Notes (1995), IBM became the world's largest software company.
> With the introduction of the term and definition of e-Business (1997), IBM coined a new industry by using the Internet as a medium for real business and institutional transformation.
> With the acquisition of the business consulting division of PriceWaterhouseCoopers (2002), IBM got access to boardrooms of customers and added new consulting capabilities.
> With the divestment of the PC division to Chinese manufacture Lenovo (2005), IBM retracted largely form the manufacturing domain.

IBM's transformation is an example to other manufacturing companies as well. Rather than receiving a single payment for initial sales of a manufactured product, many manufacturers are now receiving a recurring stream of revenue for ongoing contracts. To be able to survive in developed economies it is widely assumed that manufacturing firms can rarely remain purely manufacturing firms. Instead they have to move beyond manufacturing and offer services and solutions, delivered through their products.

Rolls-Royce today sells aircraft engines not just as discrete components but as complete solutions that are sold to their customers based on aviation miles with all operations and maintenance functions included, so called 'power by the hour'[6].

When reviewing how companies create a product-service system, it is essential to understand how services and products together create a higher added value proposition. Oliva and Kallenberg (2003) classify product-service combinations according to the so-called Installed Base (IB) service space, which consists of Maintenance Services, Operational Services, Basic Installed Base Services and Professional Services. Over the years various models have been introduced that make the distinction between (i) Customer Service, to facilitate sales; (ii) Product Related Services, to ensure proper product functioning; and (iii) Customer Support, to increase efficiency and effectiveness in the customers' processes. More recently, Beauvillard et al. (2009) introduced a three-tier approach of Traditional life-cycle services, Enhanced technical services and Business Services. The first two kinds of service are directly product related and based on traditional business models. Business Services on the other hand are indirectly product related and based on new business models. This illustrates that servitization does not only dramatically change what a business offers to their customers. Ultimately, it might dramatically change how the business itself operates. And unless this internal servitization process is designed and implemented correctly, the results can be counter productive and damaging to the business and its customer base.

5. Source: Wikipedia, the history of IBM, 2011.

6. See: http://en.wikipedia.org/wiki/Power_by_the_Hour.

THE IMPORTANCE OF SERVITIZATION

From the definition, there is a threefold logic why product firms are servitizing:

(i) Satisfy customer needs
As services have become an integral part of the proposition, it is to be expected that they play an important part in the customers' purchase decision. Customers demand value added services to improve the business case for their capital investments. Davey, Kon and Westrup (2008) showed that even during a downturn prices can be protected by emphasizing the services component of the offer. This is driven by the fact that while support makes up more than 30% of the purchase decision, which is approximately equal in importance to product specification and price combined.

(ii) Enhance the firm's performance
One of the objectives of servitization is to improve the firm's performance. In spite of all the difficulties related to cost and profit allocation, it is well established that the margins on service in many industries are superior to that of the product, as was demonstrated as early as 2004 by Monitor Group[7]. This is further corroborated by a more recent study by Roland Berger Consulting (2009). The authors' statistical analysis reveals that the market volume of services is still somewhat smaller than that of new machine sales. However, the EBIT margin on services is three to seven times higher. Also Davies, Brady and Hobday (2007) come to the conclusion that services provide continuous revenue streams, have higher profit margins and require fewer assets than manufacturing. For many industrial products the sales of services during the total lifetime of the product can be 5 to over 20 times higher than that of the initial product sale (Wise and Baumgarter, 1999; Ren and Gregory, 2007). Furthermore services oriented organizations have grown faster in recent periods than pure manufacturing ones (Ren and Gregory, 2007).

(iii) Achieve competitive advantages
A further argument for the need for servitization is given by the fact that at more mature business lifecycle stages, products increasingly commoditize. For many manufacturers, especially in the West, the development of services and solutions is based on their products, and will provide the lifeline and a basis for growth to compete in a global market. The case for servitization as a survival strategy for companies in the developed world has recently been brought forward by Slepniov, Waehrens and Johansen (2010). This is in line with the observation that the degree of servitization correlates to the economic development of a country (Neely, 2009).

A comprehensive overview of the rationale for manufacturers to develop services has been given by Neely (2009). According to this overview there are three main reasons to develop services, which are in line with the definition for servitization by Ren and Gregory which is used in this paper. The three main reasons are: economic (e.g. stability of revenues), strategic (e.g. lock in customers) or environmental (e.g. change in resource usage). Consequently, the percentage of servitized companies increases year over year (Neely, 2010). Furthermore, the percentage of servitized companies increases with company size (Neely, 2009).

THE CHALLENGES OF SERVITIZATION

As mentioned earlier, the fundamental principle of servitization is to understand how your customer (or their customer) will use your product or service. This implies that the company will be confronted with a new set of dynamics in the relation with its customers. Whereas manufacturing of products involves 'transformation', delivering services involves 'interaction' (Marks, 2007). In product companies, focus is on the back-stage (scale), but the front-stage is needed to sell, distribute, repair, develop solutions and train customers. In services on the other hand, focus is on the front-stage experience (scope), but back-stage operations are needed to prepare products or process information in line with the front stage.

The adoption of a servitization strategy brings with it significant cultural and corporate challenges. A significantly important statement also made by the researchers relates to the need for a shift from "product thinking" to "systems thinking" (Baines et al., 2007).

7. Source: Monitor Group, 2004.

Servitization in reality necessitates a change in the mental models or paradigms that managers have as to what constitutes an integrated manufacturing, product and services management system. A variety of reasons has been mentioned for the required shift in paradigms. For instance the design of services is significantly different to the design of products, since services are fuzzy and difficult to define (Slack, 2005). Next to this companies need to take into account competition from outside the usual domain like their own suppliers, distributors and customers. In addition, they need to undertake new activities that were previously undertaken by customers. This can present new challenges, as the risk incurred might outweigh the benefits of increased profit potential.

Baines et al. (2009) made clear that the communication strategy that clearly describes the value proposition to the customer needs to be considered in the design of the service provision. Such fundamental changes will not easily be implemented in an organization. Neely (2009) categorizes the challenges for servitization in three clusters, mindset based, timescale based and business model based.

The common thread in all this is that in order to be able to deliver services, the organizational strategy needs to be changed. This sets up specific challenges as the service culture is different from the traditional manufacturing culture with regard to the long-standing practices and attitudes e.g. the company needs to become more customer centric. Finding the right people for the service activities is the key to making such a change successfully.

The challenge of servitization is further enlarged by the paradox that the financial rewards of servitization are not certain (Neely, 2008). A statistical analysis of over 10,000 companies in 25 countries shows that while the share of product companies that has been servitized is larger than traditional manufacturing firms in terms of sales revenues, at the aggregate level they also generate lower profits as a % of sales. These findings are moderated by firm size (measured in terms of numbers of employees). In smaller firms servitization appears to pay off while in larger firms it proves more problematic. The rationale is that economies of scale in services seem more difficult to realize. The statistical analysis (Neely and Benedittini, 2010) shows that there are some hidden risks associated with servitization. The number of bankruptcies among servitizing companies seems to be much higher than in non servitized firms.

To conclude: while servitization is an attractive option for product companies, it also raises significant challenges or - when not addressed adequately - severe risks.

Royal Ahrend[8]

The Dutch over 100 year old furniture manufacturer Royal Ahrend, is shifting from developing, manufacturing and selling office furniture (with a focus on delivering a standard product suitable for its intended use) to a position of solution provider (with a focus on designing the customer's working environment effectively and efficiently). The mission statement has been redefined as "humanizing spaces". Ahrend nowadays is a service creator that facilitates the customer's ambition by co-defining their identity. In this way, Ahrend transformed from a manufacturer and supplier of products to a business solutions provider, offering new to the market product service combinations. This shift from "old" to "new" thinking is entirely customer-driven. The current market requires dedicated expertise and state-of-the-art knowledge of design working, learning and living environments. Solutions are no longer delivered only by subject matter experts, but by consultants who know how to design and deliver service tailor-made for the demanding customer. Customers require solutions rather than combinations of products, including design and development services, and consulting in how to provide for an optimal working environment. Therefore Ahrend's focal point is now on application innovation. By setting up alliances with high-qualified partners they are capable of delivering service by means of integrated solutions. Servitization within Ahrend is not simply supplying the customer with standard products, but the involvement of people and resources in co-creation with the customer, to design the best solutions in office spaces.

8. Source: http://www.exser.nl/kennis/exser-publicaties/events/jaarcongres/presentaties, 2010.

HOW DOES SERVITIZATION WORK?

Given the benefits of successfully implementing a product-service system, it is no wonder that both academics and practitioners show great interest in the 'how' of servitization. A comprehensive overview of literature has recently been given by Slepniov, Waehrens and Johansen (2010) and Baines et al. (2009). The overall conclusion that can be drawn is that in order to be successful an organization must not only adapt it's proposition from product-centric to a product-service system, it also needs to redesign it's business model and organization. The main differences in the business models between an after sales services and a new product business have been outlined by Beauvillard et al. (2009). Based on these insights, a lot of work has appeared on the changes in business model brought about by the servitization of a company's offer (Oliva and Kallenberg, 2003; Vandermerwe and Rada, 1988; Martin and Horne,1992; Accenture, 2007; Little, 2004; Shelton, 2009; Frank and Rommes, 2010) .

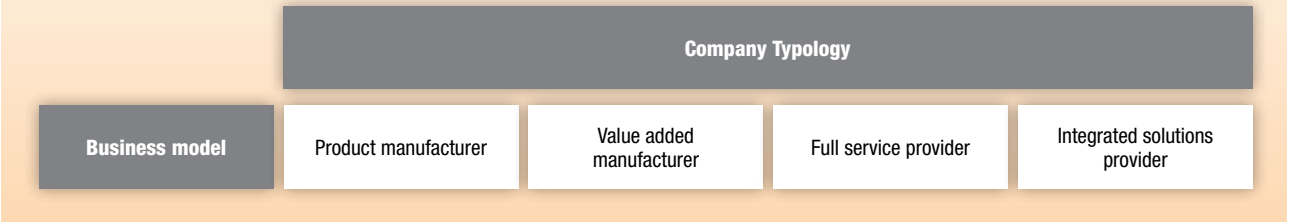
What unites these business model characterizations is that they put forward a certain phasing in the change of the business model, when a company transforms from a pure product manufacturer to a customer centric full service and/or solution provider. The basic notion behind this phased approach is that this movement cannot be accomplished in one go, as in this situation the company strives for growth in services with a business model designed to protect or enhance a core position, thus getting a conflict between the product and service business (Martinez et al., 2010; Raja et al., 2010). As it gives a clear understanding of the differences in the stages the business model is related to the company typology and ambitions we will use the stages shown in the figure below, which is a consolidation of the literature mentioned above.

As mentioned earlier, not only the business model must be adapted to make the transition successfully, also the way the company organizes itself must be reinvented. However, transforming the organization from a product-oriented company to a service-oriented company is easier said than done. The transformation takes several steps; adjusting KPI's, redesign processes, management & organization, aligning IT and ultimately people and culture. This makes it impossible to just turn the organization around in one go. Therefore like the business model, organizational elements are adapted in stages. In their study on the implementation of a servitization strategy Slepniov, Waehrens and Johansen (2010) point out that the companies they studied do not align the changes in business model with the changes in organizational elements. Scheper (2002) has demonstrated that alignment of changes in the business model and organizational elements leads to superior performance. During interviews with service managers, and in the challenges we see in our assignments, we experience that also those capital goods manufacturers that are based in the Netherlands struggle with the need to organize servitization. Therefore, an integrated servitization maturity model, that integrates business model and organizational elements, would be of significant value to both practitioners and academics. In this paper we introduce such a model, and present the validation of the model through the analysis of over 20 interviews with service managers based in The Netherlands.

DEFINING THE ORGANIZATIONAL ELEMENTS

Evolving from the initial work by Nolan and Gibson (1974), it is well established that five basic organizational design elements need to be addressed to take the

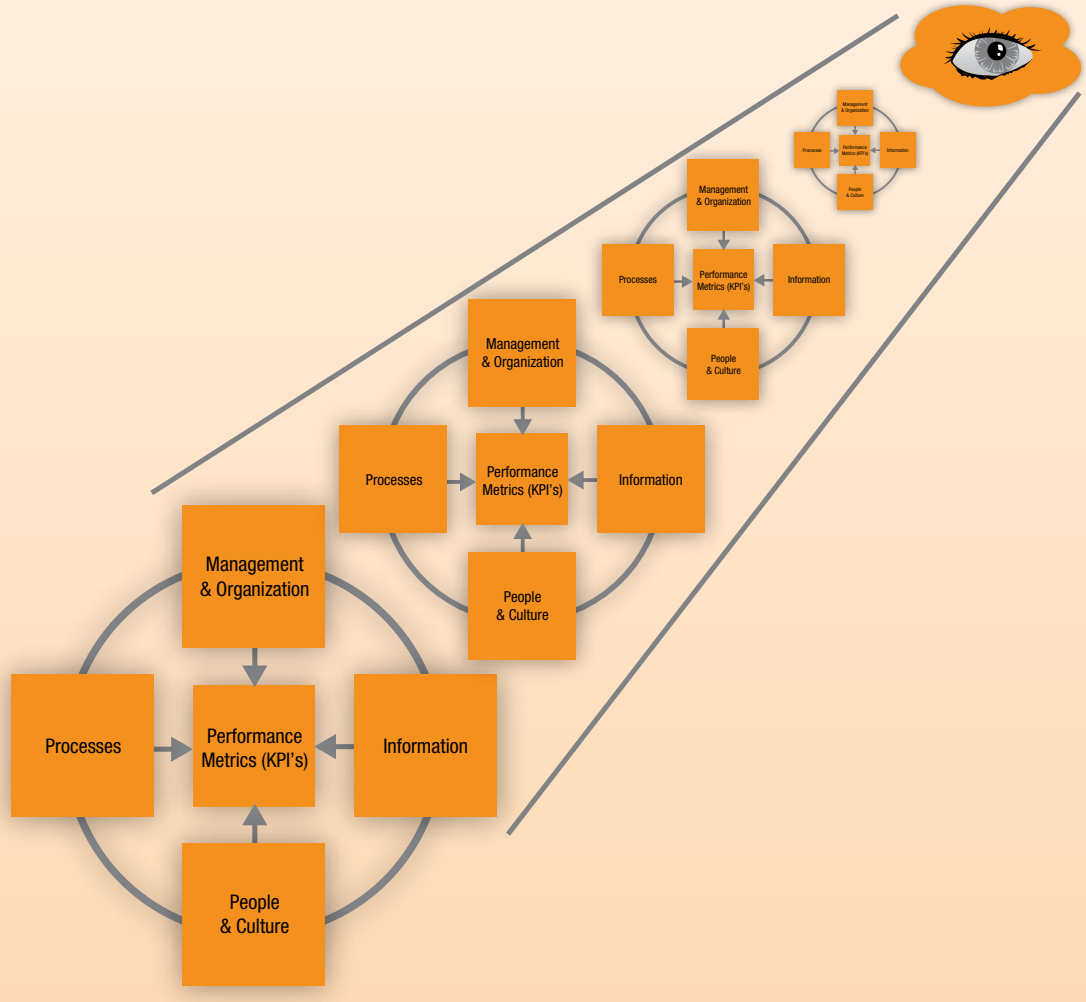
Figure 1: The relation between the business model and company typology



necessary organizational transformations step by step in order to control the performance of the organization. The five basic elements can be identified as (i) the Performance Metrics (KPI's), (ii) Management & Organization, (iii) Processes, (iv) People & Culture and (v) Information. This transition-model consisting of five basic organizational design elements is amongst others referred to as the "Atos Consulting Clover Leaf Model".

Within the Atos Consulting Clover Leaf Model organizations are seen as a system where input is transferred to output (products or services) for customers. It focuses on organizational development. When designing the five dimensions a company should take into account that the architecture should be simple and corresponding with the strategy of your organization. Moving a stage in the maturity model requires organizational adjustments. Companies that plan on doing that need to have a clear understanding of what they do well and what new capabilities they need to develop. The extent to which a company might have to reorganize itself to offer solutions depends on the scope of its opportunities, the level of integration they require, and its appetite for organizational disruption (Krishnamurthy, 2003). In each stage, five basic elements of an organization should be balanced, which leads to the following graphic representation of a company's maturity growth path.

Figure 2: Atos Consulting Clover Leaf Model and the maturity growth path



THE UNIFYING MATURITY MODEL FOR SERVITIZATION OF B2B PRODUCT COMPANIES

By integrating the four different company typologies introduced earlier in this paper and the clover leaf model a holistic maturity model dedicated to the challenges of servitization is created. This model, as shown below, is validated by the research as described in chapters 3 and 4.

This opens up the theoretical framework for practical and real-world analyses of steps to take and activities to plan, when moving from product orientation to service orientation. In order for this model to be practical, each cell needs to be populated by the relevant characteristics. Based on extensive desk research, we identified for each of the elements those characteristics that reflect its unique combination of company characteristic, business model or organizational element.

For example the “Business Model” can be further detailed into six categories that illustrate the market characteristics combined with the strategic choices of a manufacturer to capture value. The categories identified to determine the business model for a product-service system are:

1. the market maturity for services as indicated by the growth percentage in services;
2. the kind of customer relationship the company pursues;
3. the product value proposition;
4. the service value proposition;
5. service revenues as a percentage of total revenue;
6. the extent to which the product-service system is integrated into a unified revenue model.

		Company typology			
		Product manufacturer	Value added manufacturer	Full service provider	Integrated solutions provider
Business Model	Market maturity	Emerging (annual growth > 10%)	Growing (annual growth < 10%)	Maturing (no / marginal annual growth)	Ageing (declining product market)
	Customer relationship	Focus on new customers	Focus on extending sales at existing customers	Focus on vertical bundles to improve horizontal applications	Focus on few partnerships and ecosystem integration
	Value proposition	Develop, sell & deliver products	Develop, sell & deliver products + services	Develop, sell & deliver value added services, incl. platforms	Develop, sell & deliver customized, integrated solutions
	Service proposition	Services are necessity for product sales and warranty	Services are additional recurring revenue & profit streams	Services are primary recurring business	Solutions are primary recurring business
	Service revenue	< 10% of total revenue	10 - 50% of total revenue	50 - 80% of total revenue	> 80% of total revenue
	Revenue model	Pay per product, incl. services	Pay per product, pay per service	Pay per use	Pay per performance
		Organizational Architecture			
KPI's	Overall	Focus on product leadership	Focus on operational excellence	Focus on TCO	Focus on customer intimacy
	Customer	Market growth, new customers	Market share, installed base	Market share, customer satisfaction	Share of wallet, customer advocacy
	Financial	Product profits, warranty costs	Product profits, service revenues	Service profits, customer satisfaction	Customer profits, Net Promoter Score
Management & Organization	Organizational design	Vertically integrated product units	Services as shared service centre	Services as business unit(s)	Business is organized around customer solutions
	Service governance	Service = cost category for the product	Services = cost centre	Service BU's = profit centers	Customer = profit center
	Influence of service organization	Product organizations lead, services is a resource to execute product strategy	Service organization is consulted by product units	Service units influence the "platforms for services" strategy	Services & solutions is in the lead and drives the company strategy
Processes	Key value creation processes	Research & Development, Manufacturing	Sourcing, Supply Chain Management, Manufacturing, Customer Services	Sourcing, customer services, customer integration	Consulting, customer services, customer integration
	Business Planning	Production drives planning	Production and service requests drive planning	Market analysis, projected service needs drive planning	Customer operation drives planning
	Service Process management	Limited visibility & control, reactive, ad-hoc	Immature processes, variations allowed, initial service dashboard	Standardized processes, service portfolio & knowledge mgmt	Well developed processes & control, continuous improvement
People & Culture	Culture	Dominant 'left-to-right' / 'product-out' approach with much emphasis on time to market	Dominant 'left-to-right' / 'product-out' approach with much emphasis on order fulfillment	Dominant 'right-to-left' / 'customer-in' approach with much emphasis on customer service	Dominant 'right-to-left' / 'customer-in' approach with much emphasis on customer value
	People	Focus on knowledge to create products	Focus on product delivery	Focus on services that enhance the product	Focus on value for the customer
	Resourcing	Hire HiPos, nurture SME's	Hire / source best SME's	Hire / source best SME's, partner with best alliances	Hire / source best SME's, partner with best customers / alliances
Information Management	Master data	Product BOM	BOMs for products + product services	Services incl. product platforms	Customer solutions incl. product platforms
	Configuration management	As designed, as built	+ as installed + as maintained	+ as modified + as improved	+ as operated + as replaced
	IT Processes	Aligned with product and production process	Aligned with production and service processes	Driven by services processes	Fully intertwined with customers' processes

Source: B2B Servitization Maturity Model, Atos Consulting, 2011

WHAT RESEARCH IS DONE TOWARDS SERVITIZATION?

In determining the scope of our research, the focus has been on medium sized and large multinational capital goods manufacturers that deal with the application of service concepts to manufacturing. These companies are historically strongly product oriented based on an traditional manufacturing organization. Deteriorating product-based profit margins are spurring the need for service-based revenue growth. Manufacturers have to create new business models to capture profits at the customer's end of the value chain. It is important for manufacturing companies to get insight into the 'how' question. Outside the scope of our research are B2C manufacturers, pure play product firms and pure play service firms.

Our study focuses on three key research questions with respect to the servitization process:

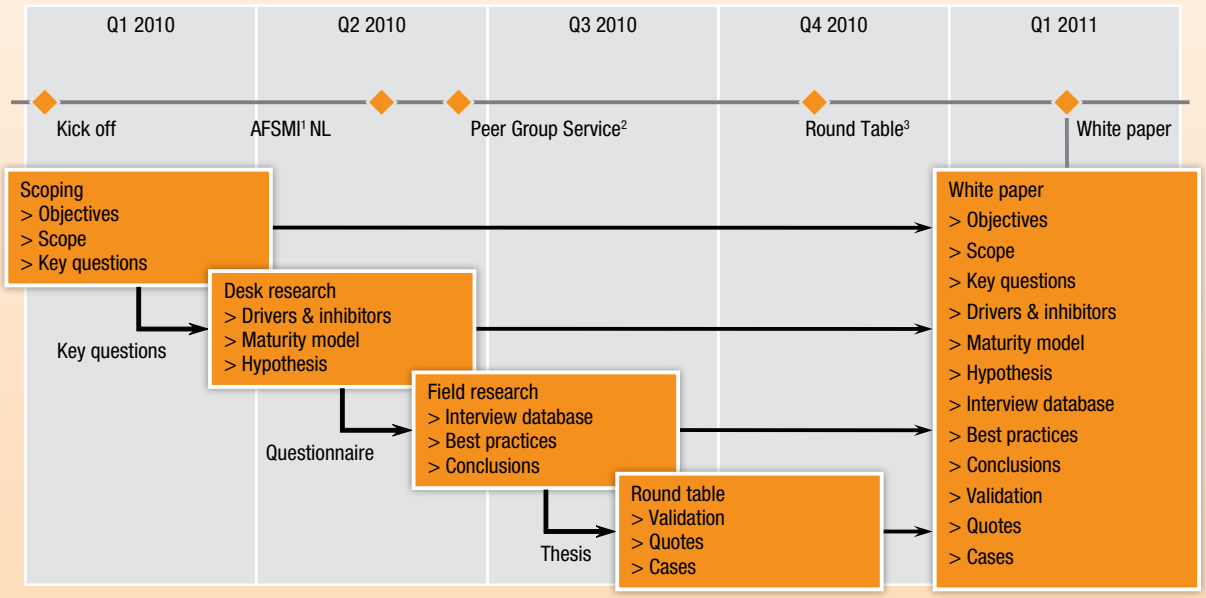
> Do product companies develop services according to the Services Maturity Model over the business life cycle?
> What are the key drivers / inhibitors in this process?
> How do product companies organize their service operations in each stage of the life cycle?

By answering these research questions, we intend to give more insight about the servitization level in the manufacturing industry, with an emphasis on how product companies organize their service operations.

RESEARCH METHOD

The figure below depicts the research process. Below, the research method will be explained in more detail. A validated 60 question interview was developed based on desk research. On each of the dimensions of the unifying maturity model (a) "Business Model", (b) "KPI's", (c) "Management & Organization", (d) "Key Processes", (e) "People & Culture" and (f) "Information Management", the interviewees had to answer questions on a four points scale. The higher the score, the more the organization focuses on that transformational dimension on services that enhance the products. For example, a question on the organization of services in the company: scale one meant that services is part of the product / business units; scale four companies organize their business around solutions / services. Next to

Figure 3: The research process



Notes 1. Presentation of approach at AFSMI (= Association For Services Management International), see www.afsmi.nl
2. Presentation of desk research at Peer Group Service (= inter company initiative between 6 multinationals in South NL)
3. Presentation of results Round Table with interviewees to validate the research results

the questions on Business model and organizational elements, also a number of questions were included to establish the (perceived) success of the servitization strategy.

With the questionnaire, data are gathered from executives responsible for services within 23 firms, all in the capital goods industry. Although these companies are located in The Netherlands, all have a multinational / global scope. Next the data were collected in a database and analyzed on (i) correlations between questions, (ii) typical leading and lagging questions and (iii) remarkable discontinuities. The results were ultimately used to validate the B2B Servitization Maturity Model as described in chapter 2.

WHAT ARE THE RESULTS?

SERVITIZATION DEVELOPS ALONG THE DIMENSIONS OF A WELL DEFINED MATURITY MODEL

To validate the model presented in chapter 2, we investigated the correlation between the scores for "Business Model" and "Clover Leaf". The Business model score is the average score for the six categories described in the chapter on the unifying maturity model. The Clover Leaf score consists of the average of the various dimensions that jointly define the organizational architecture: 'KPI's', 'Management & Organization', 'Processes', 'People & Culture' and 'Information Management.

On the charts
On the vertical axis, the maturity score's of "Business Model" and "Clover Leaf" are plotted on a scale from 1.0 to 4.0, representing increasingly mature organizational practices (1.0 is least mature, 4.0 is most mature). On the horizontal axis, the 23 interviewed organizations are plotted, in order of the maturity score on "Business Model".

There is a strong correlation between the maturity of the Business Model (the external environment) and the maturity of the Clover Leaf (the internal organizational dimensions). Adaptations of the Business Model go hand in hand with changes in the organizational design and performance management. This confirms that by identifying those elements in the organizational design that most strongly support adaptations in the Business Model, companies can focus on those elements that make the most impact on the potential success of their transformation efforts.

SUCCESS DOES NOT COME AUTOMATICALLY AT INCREASING SERVICE MATURITY LEVELS

As mentioned earlier, companies pursue a servitization strategy in order to become more successful. Yet success is not a given as was brought forward by various authors. Success therefore is defined as to what extent services contribute to the (financial) growth and health of organization. In figure 5 the average Business Model score per respondent is compared to the average score for the success of the servitization strategy.

Figure 4: The maturity score's of "Business Model" and "Clover Leaf"

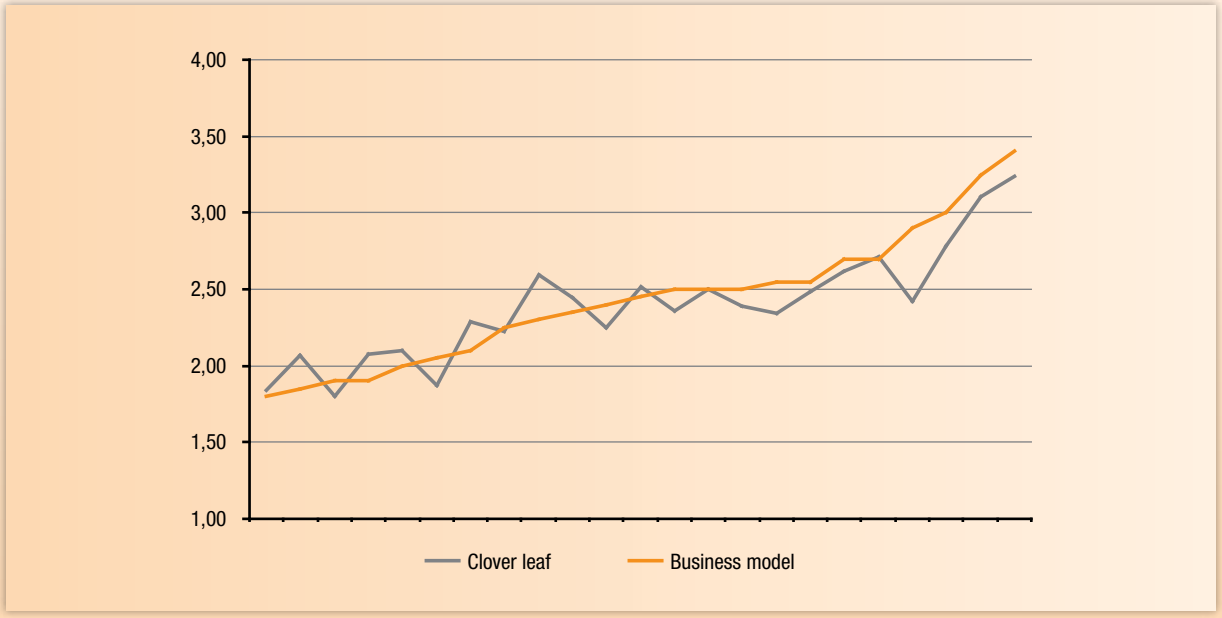
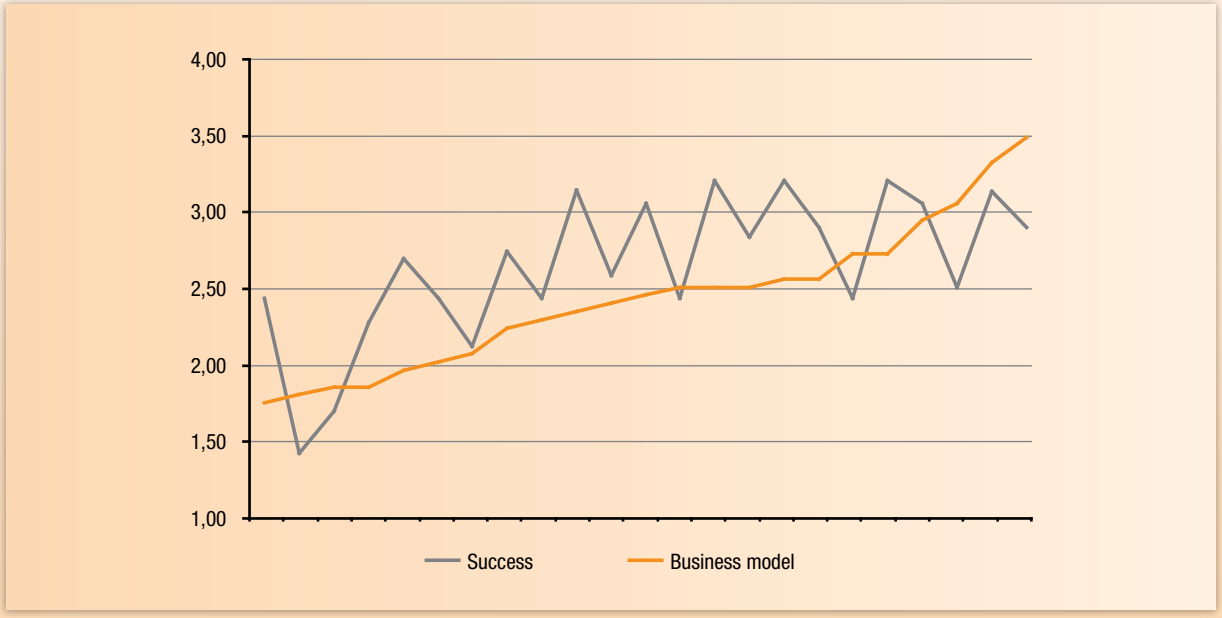


Figure 5: The Business Model score compared to the score for the success of the servitization strategy



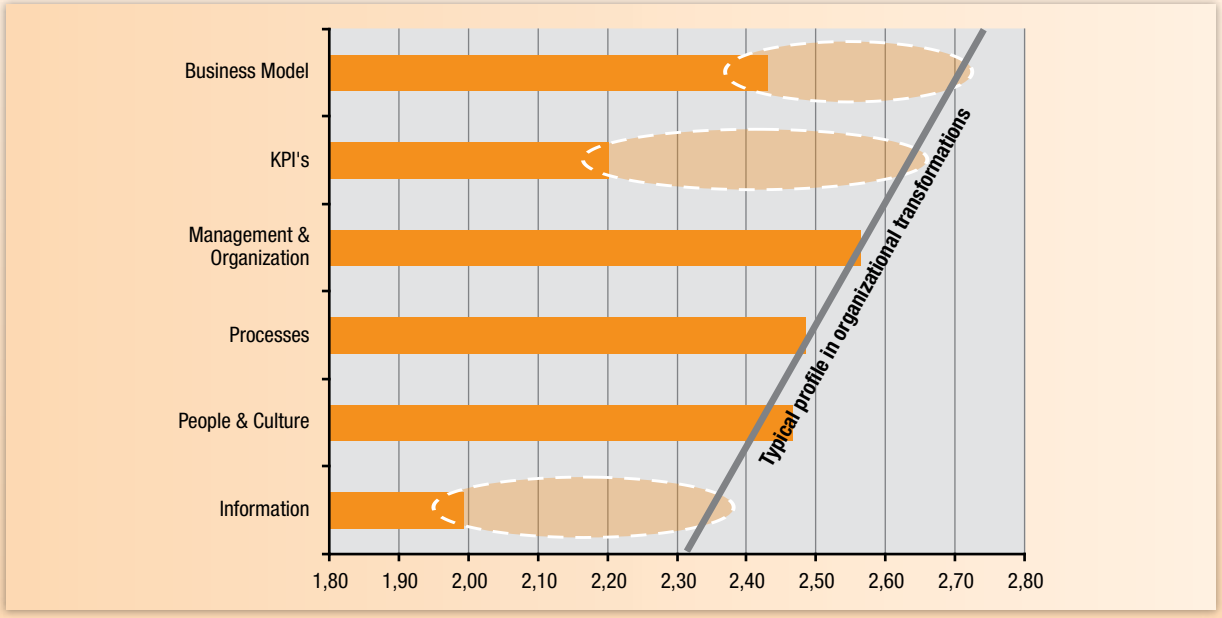
There is a weak correlation between the maturity of the Business Model and the measured success organization. Furthermore, it is obvious that those organizations that are in the early stages of servitization have less success with services than those with more mature Business Models. This indicates that the first gains of a servitization strategy are readily achieved, as adaptations in the Business Model and organizational architecture are relatively limited. However, in order to fully capture the potential benefits, organizations that make the transformation from 'value added manufacturer' to 'service provider' need to review their Business Model and organizational architecture thoroughly. A more detailed analysis of our results, revealed that companies need to pay special attention to the revenue models – this has to be done together with their customers.

THE BUSINESS MODEL IS NOT A DRIVING FACTOR, KPI'S AND INFORMATION ARE LAGGING DIMENSIONS

One of the paradigms in today's management consulting approaches is that changes in the business model drive the changes in organizational design. The accepted belief of the correlation between the various transformational change dimensions - represented by the typical profile in organizational transformations line in figure 6 - is that:

> The Business Model typically leads in organizational transformation processes. Changing the business model is relatively easy. After thorough analyses, strategic choices are made and communicated. Via the resource allocation, budgeting and planning & control processes fast progress can be made.
> Ideally, KPI's should be in line with the business model, but typically are also found lagging behind.
> The Management & Organization and Processes are 'design' dimensions and follow right behind the Business Model.
> The People & Culture and Infrastructure are 'development' dimensions and typically lag some time behind.

Figure 6: The typical profile in organizational transformations line



To validate if this is true for the servitization efforts of the respondents, the averages of the individual elements of the unifying maturity model are compared to each other.

Business Model & KPI's

It is striking that the development of a business model, focused on servitization is relatively slow or difficult in comparison to other organizational elements such as processes or management and organization. From analysis of the quotes given by the respondents during the interview, it emerges that the overall business model of the company still encompasses the production and manufacturing processes and targets. Also KPI's with respect to the new business model lag behind.

Management & Organization, Processes and People & Culture

Management & Organization, Processes and People & Culture are more or less in line with our expectations and hypothesis. Equally striking as the fact that the development of the Business Model is lagging behind, is that the notoriously difficult change element People and Culture is somewhat ahead of the progression of a servitization Business Model. An explanation for this can be that processes, management and people within a transformation to service organization are recognizable for the service organization itself, most often a specific department or business unit. This explanation is supported by the observation made by the Dutch Association for Service Management in co-operation with the Maastricht University in the "Service Monitor 2009"[9] that Service Departments have relatively little interaction with other departments, with the exception of sales. Especially the interaction with the Research and Development department is limited.

Information Management

Information Management lags seriously behind in the transformation to a service focused organization. Our observations in the interviews support this fact. An explanation for this can be that where real-life service oriented processes are added in a company's scope, the core information systems only slowly and marginally adds service processes. This is in line with the findings presented in the before mentioned Service Monitor 2009.

9. Source: Service Monitor, Noventum, 2009.

THERE ARE SIGNIFICANT DIFFERENCES BETWEEN THE VARIOUS SERVITIZATION MATURITY STAGES

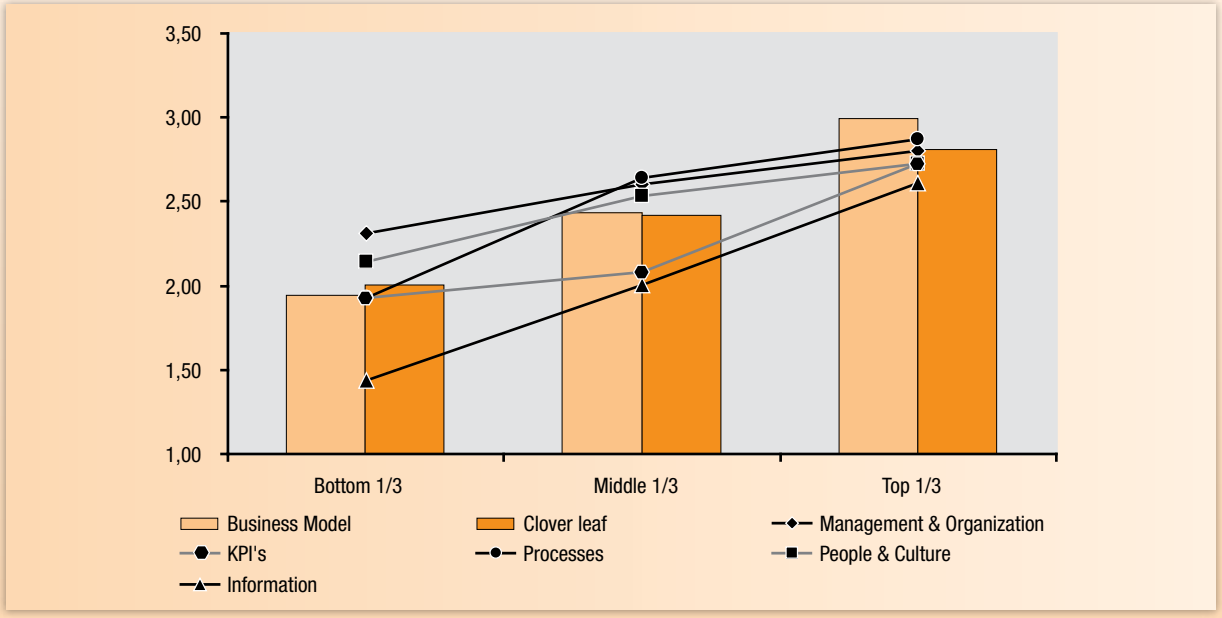
Upon a review of the possibility to cluster the participating companies into coherent groups with respect to the characteristic of the business model, it turns out that it is possible to distinguish three groups. The companies in the lowest tertile of the average score for the business model are yet to fully make the transition from “manufacturer” to “value added manufacturer”. The middle tertile has made this transition. The upper tertile is in the process of completing the transition towards a “service provider”. For each of the tertiles the average scores for each of the organizational design elements have been calculated, as is shown in figure 7.

From this, the following observations can be made:

> *Business Model - impacted by drivers and inhibitors*
For the bottom tertile, the ‘Business Model’ lags behind the ‘Clover Leaf’, while for the top tertile the ‘Business Model’ leads the ‘Clover Leaf’. This can be attributed to the fact that while service organizations can to a large degree determine their own course of action in less mature organizations (thus adapting “Clover Leaf” elements to their servitization efforts), they depend on the company as a whole to adapt the business model. In the early phases of servitization, the rest of the company will not see the need to adapt the business model, while in later stages this becomes obvious to all. From the quotes gathered during our interviews with service managers we concluded that their ability to stimulate adaptations in the company’s business model is largely determined by the attitude of their management colleagues towards the drivers and inhibitors for servitization.

> *Key Performance Indicators - lag behind in line with hypothesis and expectations*
KPI’s see a distinctive change when a company is making the effort to establish itself as a “service provider”. It is in this stage that the company has to reinvent the way it measures it’s success. Hence, an organization that wants to change its orientation from products to services needs to adapt its performance measures to anchor the transition successfully. The responding companies however, yet have to define a new coherent set of performance metrics matching their new typology.

Figure 7: Average scores for each of the organizational design elements



> *Management & Organization - the most leading organizational transformation dimension*
For all but a few of the participants the management and organization aspects are at comparable levels. In line with the results of the "Service Monitor 2009" this shows that service organization have ensured that "their house is in order". Consequently, management and organization is a leading transformational change dimension, and the lead is highest at least mature organizations.

> *Processes - re-design marks the transition to "value added manufacturer"*
Processes see a significant change when a company is making the effort to establish itself as a "value added manufacturer". Part of becoming a "value added manufacturer" is that the value creation, business planning and service management processes are re-designed. This becomes necessary as services play an increasingly important role in augmenting the traditional product offer. These changes can be carried over when the company makes the transition to a "service provider". On the other hand there is an indication that those organizations that are in the early stages of servitization lag behind in their process approach.

> *People & Culture - seams more advanced than anticipated from similar transformation studies*
Like 'management & organization', there are only little differences between the responding companies. It is evident that people and culture is relatively more developed in early maturity stages. This implies that especially in the service discipline, people aspects receive significant attention in the early stages of servitization. This may be attributed to the same considerations as mentioned under 'management and organization'.

> *Information Management - the least developed dimension*
For all of the study participants, Information Management is far less mature than the Business Model (and as a matter of fact than all other elements of the 'Clover Leaf'). It is observed though, that the consciousness on how information and its architecture should fit the company typology increase somewhat with the service maturity. Consequently, information lags most for the companies in the lowest tertile and least for the companies in the upper tertile. This implies that in spite of a development of the business model of an organization, the information architecture and systems are only adapted once the organization has successfully made the shift towards a 'service provider'.

DRIVERS & INHIBITORS

In our research we found four main drivers and four key inhibitors.

Drivers

> *Customer expectations - a strong driver, confirmed by over 80% of interviewees*
Customers become more and more demanding and organizations get challenged to adjust to those high standards, thus implement customer centricity.

> *Financial incentives - a strong driver, confirmed by over 80% of interviewees*
Shrinking product-based profit margins are spurring the need for service-based revenue growth. Revenues of services are greater than new product sale especially in times of economic crisis.

> *Gaining competitive advantage - a weak driver, confirmed by about 50% of interviewees*
Customer service has become a competitive trump card, services are difficult to imitate.

> *Marketing opportunities - a theoretic driver (recognized by less than 20% of interviewees)*
Use services for selling more products. By offering services, companies get insight into their customer's needs. This is not yet deployed widely.

Inhibitors

> *Organizational conflict - a strong inhibitor, confirmed by over 80% of interviewees*
Pursue growth in services, with a business model / organizational architecture that is optimized for products.

> *Underestimation of difficulty to sell solutions - a strong inhibitor, confirmed by over 80% of interviewees*
Customers do not recognize the services as something to pay for. Services and solutions cost more to develop, have a different Decision Making Unit and (far) longer sales cycles.

> *Incomplete transformation into an 'outside-in' orientation - a strong inhibitor, confirmed by over 80% of interviewees*
Product firms have insufficient knowledge of the customer's business model, they have a 'product' culture and yet have to become customer oriented.

> *Stopping short of offering full line services - a theoretic inhibitor (recognized by less than 20% of interviewees)*
Most interviewees state that their service offering goes well beyond just bundling products with basic services.

SERVITIZATION IS A TRANSFORMATION PROCESS, WITH INCREASINGLY STEEP THRESHOLDS

Driven by evident drivers and strong inhibitors, the overall transformation process takes a significant amount of time. To our surprise, the Business Model and the associated Key Performance Indicators do not act as an engine for change. They are rather lagging dimensions, providing insufficient guidance to the overall transformation, or worst case slowing it down. On the other end of the spectrum, Information Management is the least developed transformational change dimension. Although this is rather common in organizational change, the gap between expectation and research results is considered significant. Also this may result in slowing down the speed of change.

Our research clearly finds that as servitization progresses, change becomes increasingly difficult. Or stated differently: the more mature an organization is, the more difficult change becomes. The reason for this is that the business model needs to be reviewed fundamentally, especially at more mature stages.

The overall objective of servitizing product companies is to transform services from *a department* to *a state of mind*[10]. And our research indicates that the further servitized an organization becomes, the more difficult change becomes. Or stated differently, the change thresholds become increasingly steep.

10. Based on Bolwijn P. and Kumpe T.: Marktgericht ondernemen [Dutch], 1991:
- the *efficient firm*: from costing department to efficiency as a state of mind;
- the *quality firm:* from quality department to quality as a state of mind;
- the *flexible firm:* from planning department to flexibility as a state of mind;
- the *innovation firm:* from innovation department to innovation as a state of mind;

We propose to call this next stage:
- the *service firm:* from service as a department to service as a state of mind.

WHAT ARE OUR CONCLUSIONS?

We have drawn the following conclusions from this B2B servitization study:

- **Servitization is real** for B2B product companies. All (!) interviewees state that whatever stage they are in currently, they aspire / plan to move towards the next stage. Servitization is driven by both external (primarily more demanding customers) and internal (primarily financial) drivers. The ambition to transform to a "value added manufacturer" or even a "service provider" is almost universal. And the most mature firms are mounting up towards becoming an "integrated solutions provider".
- **Servitization creates value.** Although success does not come automatically, there is ample proof that servitization can create significant value. Developing new, high margin and relatively stable revenue streams are attractive, especially in commoditizing industries. But the business model has to be reviewed fundamentally and the organization has to be transformed to develop and deliver these services to benefit from this new business. If the transformation is not executed in a fundamental way, than servitization could prove a risky endeavor, which ultimately might endanger the continuity of the firm.
- **Servitization is difficult.** Only few companies comprehend that it is a fundamental / company wide transformation process. It starts with the business model and reflects the entire organizational architecture. Many interviewees struggle with defining the transformation roadmap. Which transformation measures to address in which sequence? And it becomes evident that the more mature a manufacturer is, the more difficult change becomes. The transition from stage 1 ("product manufacturer") to stage 2 ("value added manufacturer") is relatively easy. The transition from stage 2 to stage 3 ("service provider") is relatively difficult. The transition from stage 3 to stage 4 ("integrated solution provider") seems impossible[11].
- **Servitization is not restricted to the service domain.** Reviewing and redesigning the business model - and the KPI's in line with this - at the corporate level is quintessential. Especially at higher servitization maturity levels. Services are not an add-on business, but the core business.
- **The Servitization Maturity Model[12] can help** to structure and accelerate the transformation. The questionnaire in itself already prompted many interviewees with the quote: 'this is a comprehensive checklist for our services strategy, we can already use'. The full services maturity model provides an easy to understand framework to assess the current position and plan the future roadmap.

TO CONCLUDE: SERVICES MUST BECOME A STATE OF MIND

Especially at higher servitization maturity levels, services are no longer a department, but must be a state of mind. We hope to offer firms that struggle with this transformation process a guideline to structure and accelerate the process to develop considerable business value beyond products.

11. Although there is insufficient quantitative data from our interviewees, we have found the explanation for this in our desk research. The phenomenon is known as 'path dependency'. Traditional (product) competences (or the product genome) are no longer a key enabler and become an inhibitor to become fully solutions oriented (which requires a customer genome). As services represent a high growth / high profit / high predictable market, we foresee that this role will be fulfilled by pure play services providers (e.g. the likes of Stork Technical Services, Cofely or Imtech), spinoffs from large asset owners funded by private equity or by start-ups funded by venture capital.
12. See B2B Servitization Maturity Model, Atos Consulting, chapter 2.

OVERVIEW OF INTERVIEWEES

Company	Interviewee(s)	Function
Aalborg Industries	Marcel Somers	General Manager Engineering & Services
ASM International	Rien van Driel	Director IT
ASML	Frits van Hout	EVP and Chief Marketing Officer
Assembleon	Miel Ramselaar	Senior Director of Operations & Supply Chain Management
Bosch Rexroth	Maarten van 't Hof / Luc Staub	Director Services / BU Manager LSM Services
CFS	Ted Hegeman	EVP Customer Support
DAF	Johan Drenth	Director After Sales
FEI Company	Jim Fetterman	VP Global Service
Fluke	Ian Morehouse	Director Service Europe
LM Wind Power	Ruud van Dijk	Director Service Europe
Marel Food Systems	Gerrit den Bok	Director Service
Norit Haffmans	Jan Beek	Manager Service
Océ	Paul Wouters	VP Service & Support
PANalytical	Guido Eggermont / John Oude Egbrink	Commercial Director / Manager International Customer Support
Philips Healthcare International	Michiel Manuel	SVP Customer Services
Philips Healthcare Emerging Markets	John van Dalen	VP Emerging Markets
PON Equipment	Ruud van Dijk	Director Marketing & Supply Chain
Ricoh Benelux	Peter Sprenger / Claude Roman	VP Strategy / Director Strategic New Business Development
Siemens Nederland	Maarten van Wulfften - Palthe	Director Siemens One
Stork Prints	Arno Bouwmeester	Manager BU Capital
Teleplan Communications	Theo Alkemade	VP Operations
Yokogawa Europe	Ton van den Ham	Manager Customer Service
Vanderlande Industries	Jan Hulsmann	Managing Director COO

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