An IASS Sub project

Value Creation

– How After Sales Services can Open up and Drive Business Development.

$$\textbf{Value} = \frac{\textbf{Quality} \times \textbf{Service}}{\textbf{Cost} \times \textbf{Lead time}}$$

Industrializing After Sales Services, IASS, is a research and development project equally financed by participating companies and VINNOVA, performed by the Marketing Technology Centre (MTC), Linköping University School of Management, and the Swedish Industrial Design Foundation (SVID).

Participating companies are AGA/Linde Gas, BT Industries, TeliaSonera, ITT Flygt, Metso Minerals, Electrolux Laundry Systems, Volvo Bus Corporation and Saab Technologies.

The aim of the project is to identify how to increase companies' ability to develop and produce after sales services in an industrialized way.

This report summarizes the work within one of four IASS subprojects, aimed at addressing the value creation dimension of after sales services.

Content

This report about the findings of the IASS subproject Value Creation is produced by:

Samuel Vester, Volvo Bus
Michael Wallén, Metso Minerals
Daniel Kindström, Linköpings universitet, LiU
Per-Olof Brehmer, Linköpings universitet, LiU

1. The Role of Value Creation – Drivers and Opportunities

- *As industrial manufacturing companies' after sales services mature it becomes critical to create and capture additional value beyond what the original product offer.*
- *A more advanced product and service portfolio requires a better understanding regarding how the customer creates different kinds of value and how the value of the after sales services can support this.*

Value is, by Anderson et al (1993), defined as

> "*the perceived worth in monetary units of the set of economic, technical, service and social benefits received by the customer firm in exchange for the price paid for a product offering, taking into consideration the available suppliers' offerings and prices.*"

Paraphrased this means that value is in the eye of the beholder (i.e. the customer) and can encompass a number of dimensions and not only the price tag, most notably service benefits.

It is often not enough in contemporary business to provide a good product but one must also offer other order winning characteristics to persuade customers. This is a compelling reason for developing new ways of approaching customers with such mechanisms as profit sharing schemes and availability contracts and moving away from pure price competition. It is often not possible, for companies in high wage countries to compete solely on price and they must therefore find new ways to justify their products, one such way is through services and increased value propositions through mechanisms such as availability and product/service range.

As many industrial manufacturing companies continue to move into a role of a service provider and as competition becomes fiercer, after sales services in particular take on a prominent role regarding companies' competitive advantage and their generation of profits. Many aim at increasing their productivity by addressing the revenue side of the productivity equation, i.e. increasing revenues, as opposed to just focusing on achieving cost efficiencies on an operational level and run the risk to become caught in a race to the bottom.

Adding value through new services, quite often information based and distributed via e-business and the Internet, is becoming more and more important for many industrial companies today. Providing more complete offerings and complete business solutions, often called functional sales or integrated solutions (e.g. sell availability and not only products), are becoming key in order to remain competitive. One reason for this is that services, traditionally, has a much higher profit margin than products. Other reasons are e.g. that companies need to differentiate themselves better in order to win, and also retain, customers, especially in light of low-cost competitors from Asia and Eastern Europe.

After sales services can be an important vehicle for many companies' profits and are closely related to the extended value that are (and must be) provided to the customers. These combinations, or bundles of products and service, are often called offerings and are a new way to address customers' needs and to create value both for suppliers and buyers. Also retaining existing customers is traditionally seen as becoming easier with more complete offerings with a higher potential value.

A driver for an increased range of services and in particular combinations, or bundles, of products and services is that customers do not want to make these bundles themselves and that a supplier can add value by doing this instead. After sales services is not only a business in itself but is also an important platform for both so-called up-selling and for generating new sales from the existing customer base.

Kothandaraman and Wilson (2001) discuss what they term value networks, i.e. a network of companies cooperating to provide superior value, and state that relationships are one of three core dimensions that must be in place (the other two being customer value and core capabilities). What they don't mention is that the relationship dimension, especially when it comes to services, must include the customers as well since creating service that provide superior value often can be developed with the customer as an integral part of both the development as well as the deployment process. Kotler and Armstrong (1997) states that:

> "*achieving organizational goals depends on determining the needs and wants of target markets and delivering the desired satisfaction more effectively and efficiently than competitors do*".

In essence the above translates to the fact that creating superior value for customers is crucial for company success and to do this, companies need to better understand their customers and their needs. Furthermore, as a result of a higher level (complexity) of services the customer-supplier relationship potentially becomes tighter and thus lock-in effects can be achieved, increasing customer retention and, in the long run, value appropriation for both parties.

The IASS subproject *Value Creation* was based around questions such as:

- In what way does an extended offering consisting of both products and services **contribute to sales** and **how is value created?**
- How can companies increase their **competitive advantage** through value creating services?
- Can companies create these services, and value, by themselves or are **other actors** necessary (in e.g. so-called value constellations)?
- What effect does this value and offering thinking have on the **relationship** between supplier and customer as well as the **development of services**?

2. Challenges for Value Creation

- *Most companies need, and want, to keep their expertise in their products due to among other things cultural aspects but this creates inertia for change in respect to service development and can thus hamper value creation.*
- *Complexity and risk as well as the value creation potential increase with a more diverse and advanced service portfolio.*
- *It is pivotal to understand that companies supplying services can perceive their customers from different perspectives, which have influence on the value created.*

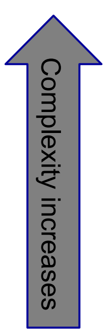
The many reasons that exist for increasing and improving after sales services in no way makes such changes easy of simple. As identified in this project and elsewhere, most companies need, and want, to keep their expertise in their products due to among other things cultural aspects. This is also very important from a skill preserving and skill exploitation perspective.

An important and difficult aspect here is how to focus on both these aspects; both products and services. It is often argued that in order to provide good and competitive (and value adding!) services companies must have the product knowledge that comes from developing and manufacturing products. This is where their core competence is and it is their base for the existence. Thus these traditional industrial companies have an edge on both newly established companies as well as 3rd party providers focusing solely on the service side (e.g. as a barrier for entry).

Since products per se are becoming more and more commoditized companies must work hard at avoiding what sometimes is called the commodity trap. They can use services (and value) for differentiation purposes to avoid this. Thus it can be argued that the ability to create value outside of the product domain, typically with services, is becoming a core activity. This, however, is not entirely true since creating these services without an in depth and intimate knowledge of the products if often very hard if not impossible. It points, though, to the fact that companies must reconsider their priorities and invest in service development (including a better understanding of customers) and deployment.

Delivering after sales services is rather different than delivering equipment, e.g. the revenue stream is often depending on time and not a set price. As with consultancy companies, service deliveries are often dependent on service personnel, and revenue and profits are closely tied to what extent a company is in being able to charge customers for service hours. This of course is also based on the availability of service personnel since a high availability usually equals a larger organization, i.e. high fixed costs, and more hours that must be accounted for.

As the value potential for services increase so does the complexity and the risks (see Figure 1 below). It is important to strike a balance between value offered and the complexity demanded influencing e.g. pricing, risk sharing, coordination efforts, and thus costs.



- *New organizational forms (e.g. joint ventures)*
- *Knowledge partner that contributes to customers development*
- *Offers capacity and availability*
- *Mutual responsibility for processes*
- *Participates in customers business and development*
- *Different services and combinations of products and services*
- *Develops understanding regarding customer needs*
- *Product sales and spare parts*

Figure 1. Increasing complexity in services.

As after sales service becomes more and more complex and together with the original equipment/product moves towards functional sales or integrated solutions it becomes business critical to have good knowledge of customers' processes and business. This to ensure that services offered meet current as well as future needs. This also has the potential to tighten the relationship between buyer and supplier and take advantage of the inherent advantages of this (such as shutting out 3rd party, and often low-cost, providers of spare parts).

Furthermore, after sales services provides many more contacts between supplier and customer thus increasing the possibility, and profitability, of establishing a closer relationship. This in the long run usually means more sales, at least in theory. As discussed in the IASS subproject *Customer touch-points*, each contact point between the parties (e.g. service personnel, technicians, sales persons, back-office personnel) is a forum for evaluating the value created as well as creating value. The relationship is in our cases a key aspect in delivering value from the services offered.

Since, as we have argued, the relationship with customers is important for the value that after sales services can deliver its pivotal to understand that customers can be perceived in different ways from the company selling services (see Figure 2 below). The different levels show how a company can perceive its customers, and in particular the participation in the development of after sales services, in different ways. A higher level often translates into a higher value generation and more complex solutions and also increasing lock-in effects, also for the supplier.

Level 3: The customer as a resource and part of value process

Customer knowledge and capacity is seen as a complement to the supplier. Joint value generation and profit schemes are typical agreement types.

Level 2: Customer as a source for specifying service requirements

Instead of average statistical customers, specific customers are involved in focus groups, customer touch-points etc.

Level 1: The customer is an important perspective

Start with the customers' needs and possibilities instead of the company's own capabilities and knowledge (customer mapping).

Level 0: The customer is the service buyer.

The customer is seen as a pure buyer with no influence over the services.

Figure 2. Different level of customer participation in the after sales services development

Due to the heritage from a more product oriented realm companies, usually, have an effective product development process that is industrialized to a great extent. This is often not the case in terms of after sales services. Somewhat simplified much of this development is done ad-hoc and without much thoughts with regards to industrialization. If companies are to benefit fully from services they need to pay attention to these details as well unless run-away costs and customer (and market) unique solutions are to be the norm. One aspect discussed is a connection and awareness of these details already during product development (so that we get a product that is suited for efficient after sales services such as maintenance).

Another problem often encountered in service development seems to be that in many organizations the starting point when developing new services is a so-called average customer. This is often a statistical defined customer often not existing in reality. The focus must instead be on identifying customer segments and use specified customers during service development. If not the value of the services is often low and difficult to appropriate.

3. Understanding the Challenges for Value Creation

- *Value creation starts by understanding the value creation process of the customers.*
- *Successful value creation should be a win-win situation.*
- *Services need to be mapped according the customer benefit, the market potential and the technological conditions that "surround" it.*
- *Value should not only be perceived and measured solely from a financial perspective.*

As products and especially services become more complex and incorporate more aspects, knowing your customers' business and processes becomes a prerequisite for developing the "right" competitive advantage and value. However, it is important not just to think of value in terms of the customer but also what value that is created internally, i.e. we need to be aware of the fact that there are, at least, two actors included and aim for a win-win situation and not a zero-sum game (see Figure 3 below).

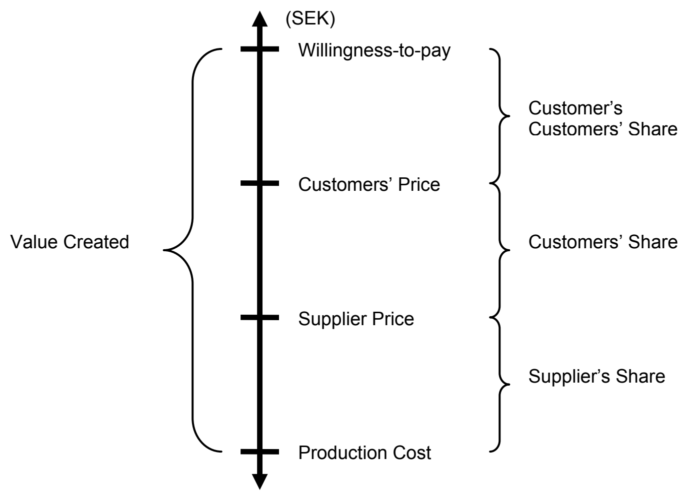


Figure 3. The division of value between actors (adapted from Brandenburger and Stuart, 1996).

The total of the value created can be divided between the supplier, its customers, and its customers' customer. For this to work a supplier must, obviously, pay attention to the customers' needs and also how they approach their respective customers. Quite often the case is the other way around, i.e. companies tend to pay much attention (and rightly so) to the value created internally, typically cost reductions, and to an extent neglect the customer side. Furthermore it might also be necessary to understand the customer's customers and the value they need in order to launch the right services.

New focus of economic thinking

Traditionally much innovation and development of services have been driven from the idea that the economics (e.g. scale and scope) of the products and services offered are essential for a company's competitiveness. Calculating and evaluating each one of these means that the products, services, and the combination of both, either contribute by providing the company with a platform to compete on cost or being unique (differentiation) (cf. Porter, 1996). However, it has been argued (see e.g. Hax and Wilde, 1999; D'Aveni, 1994) that as we are moving into a service based economy, a company can not focus just on the *economics of their products and service*s, they have to focus on multiple economics such as the *economics of the customer* and *economics of systems* in order to fully address the new challenges inherent in services (see Figure 4 below). Focusing on several different economics is also a key aspect in creating added value.

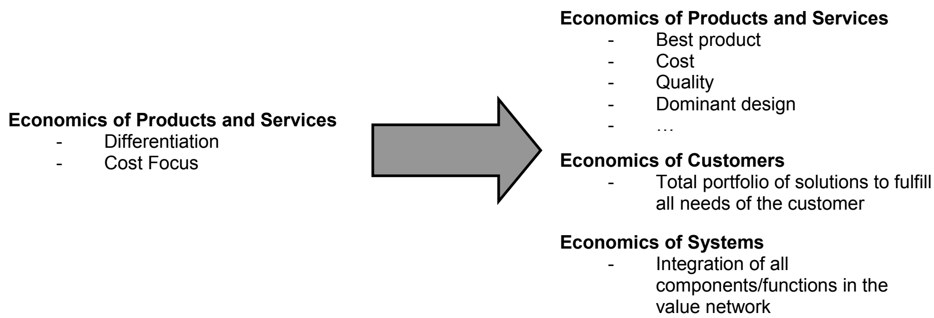


Figure 4. Multidimensional economics – part of the value creation process.

Having the best products, provided at the best cost level, focusing on quality in the services and products, or even creating a standard that your competitors follow (setting a dominant design or standard) is seldom enough. That is, it is often not enough just to focus on the first type of economics. In our study we have seen examples of services offered by Volvo Bus creating competitive advantages that later are copied by competitors and subsequently become part of the standard offering within the industry. The company can continue along this path but the same pattern is likely to happen again developing into a game of catch-up.

If the focus instead is on supporting the economics of the customers, the relationship becomes an integrated part of the value creation and thus harder to imitate. In order to create economics for the customer understanding the customers' situation becomes essential, often leading to a situation that requires a larger portfolio of products, services, and solutions. To be able to provide this larger portfolio the supplier might be forced to extend their value network, or constellation, to include new partners. If successfully carried out this can be a base for creating a close relationship often including some type of profit and risk sharing. It should be noted that this often requires a long-term commitment from both the supplier and the customer. Metso Minerals have in their projects noted that it often takes time to build a good foundation for mutual value creation.

Focusing on what the customer has to gain by doing business with a specific company is part of the third type of economics, the economics of systems. The efforts by Volvo Bus and Metso Minerals (sometimes together with partners) in providing total solutions for their customers including both services and products represent this. Through this the customer–supplier relationship can become so strong that it effectively forms a barrier to entry that is difficult for competitors to by-pass. However, if the focus is not on creating value beneficial for the relationship, i.e. all parties (cf. Brandenburger and Stuart, 1996), the customer will search for another partner. If a relationship has developed and is institutionalized, companies still need to keep developing this relationship not to become complacent and start focusing solely on internal costs again, thus neglecting the value for the customers.

Three logics for approaching service value

There are many aspects, or in this case logics, that need and should be considered when developing services and thinking about the value that is created through those services. It is possible to distinguish three different perspectives, as an analysis model called Market-Business-Tech model (M-B-T), in this regard (see Figure 5 below):

- *Business logic* representing aspects that from both customer and supplier perspectives on cost and value issues
- *Market logic* targeting the segments and the type of customers that would be attracted to the services
- *Technology (Tech) logic* representing aspects of how the services are to be created, delivered, and used.

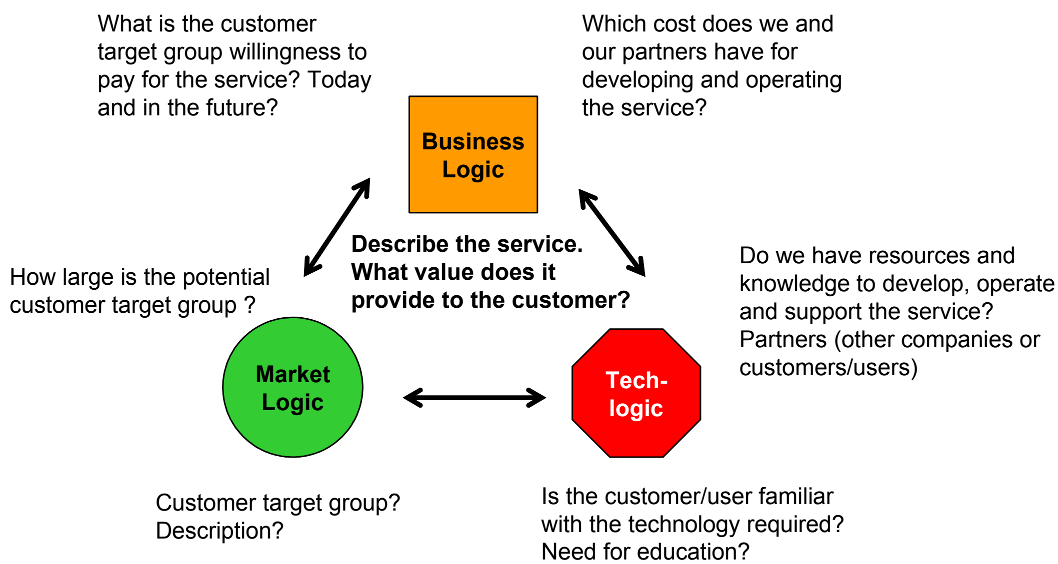


Figure 5. The M-B-T logics influencing what value that is created and how (Morgondagens tjänster, 2001).

These three can serve as an analytical framework guiding the thought-process and also to an extent aiding decisions when thinking about services. The main message here is to pay attention to all three aspects if a comprehensive and successful service is to be developed and offered to the customers. Furthermore, as indicated by the arrows, are the three logics not independent but rather influence each other and should be aligned for the best result. If not the logics will probably restrict the value created by the after sales services.

For example, a new service must make business sense, i.e. be justified from a business perspective, it must also have a market, i.e. be demanded from customers, and it must also be technologically feasible. It is easy to neglect one of these dimensions and thus come up with an offering or service that in the end does not contribute to profitability.

Value is not only financial

A simple definition of value is that it is a function of quality, service, cost, and lead time (see Figure 6 below).

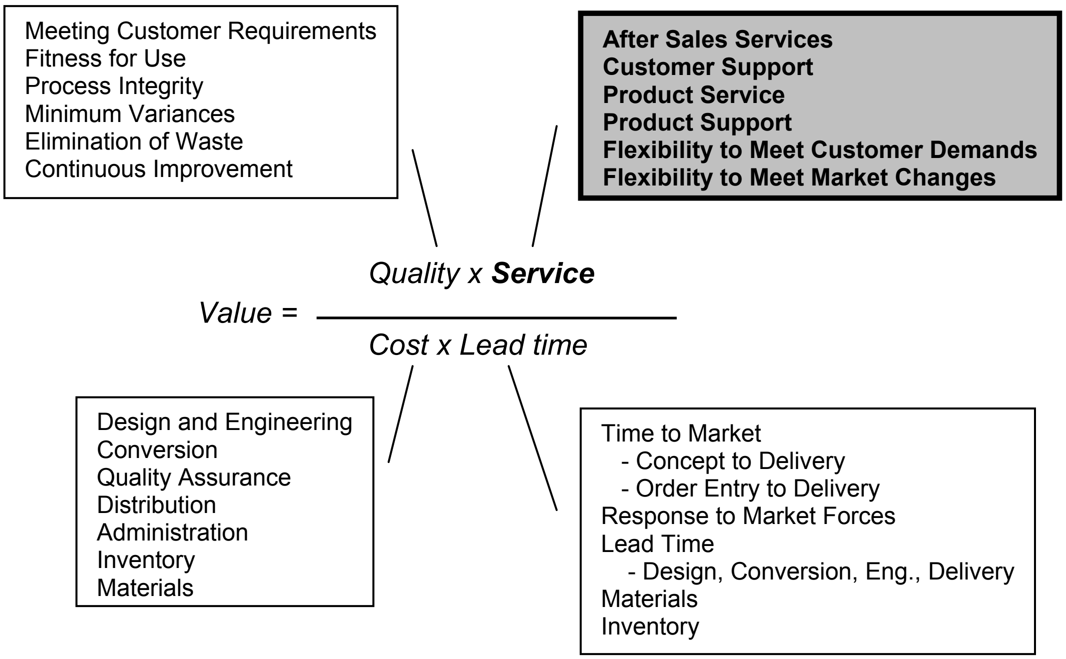


Figure 6. The value equation (Johansson, McHugh and Pendlebury, 1993)

Traditionally, and quite often, industrial companies have had a focus, and also high proficiency, in the *Cost*, *Lead time*, and *Quality* dimensions above but neglected the *Service* dimensions (or treating it rather adulterated). Cost, Lead time, and Quality however tend to become more and more exhausted and thus companies must turn to services in order to continue to deliver unique value and to differentiate themselves from competition. This also create problems and also opportunities when it comes to pricing, one example being so-called *value pricing* (see further in the subproject *Pricing*).

Value through services can be created in many different ways. An interesting framework is that value creation can be divided or structured into four different dimensions, which of course are interconnected, *Novelty*, *Efficiency*, *Complementarities*, and *Lock-in* (Amit and Zott, 2001). In this framework many aspects of value creation are touched upon, from more intuitive (and standard) mechanisms focusing on cost reductions to complex mechanisms with a focus on innovation and novelty, especially in terms of how to employ ICT (Information and Communication Technologies) and information to devise new exiting offerings/services.

These dimensions are a smart match with the issues surrounding after sales services. The lock-in dimension has its focus on how to develop and retain customer relationships. Looking at the complementarities dimension we here put focus on how products and services complement each other to form offerings, but also that we should search for possible complementarities internally in the supplier organization. As mentioned earlier the trend that encompasses the two last dimensions, efficiency and novelty, is a move from the former to the latter in the spirit of value creation from new services rather than from efficiencies.

A common problem with value and value creation is often how and what to measure. Often value is rather qualitative and thus difficult to quantify and measure (value creation through cost reduction is an obvious exception). The value created from services is often different compared to value from products which often necessitate new measuring techniques and new measurement systems. Connecting the performance measurement systems to strategies and to incentives and provision systems also becomes difficult but yet very important. Connecting to after sales services and an increased amount of customer contacts, and knowledge can be of pivotal value to an organization but is very hard to put a measurable quantity on. For example by having service technicians proactively perform upgrades and preventative maintenance during scheduled visits, value can be created also internally since extra visits, and costs, are avoided. That is, pro-activity and timing can create value but is very difficult to measure and quantify.

In addition it might also be hard to contribute a specific value or outcome to a specific investment which makes justification harder especially in traditionally product oriented companies (which include most industrial companies) that might exhibit some resistance to an increased focus on services.

4. Value Creation in Two Service Processes

- *In the short term most companies should focus on value creation in the service deployment process and in the long term on the service development process.*
- *In order for companies with after sales organizations to be able to offer profitable and valuable services/offerings to customers a degree of standardization must be achieved in these offerings.*
- *Customization is a very powerful tool when it comes to creating stronger linkages to customers and also increasing lock-in effects.*

From studying the organizations in this project and through extensive discussions we can distinguish two different processes that have different needs and characteristics, not the least when discussing it from a value creation perspective. These two are the *Service Development process* and the *Service Deployment process* (see Figure 7 below). Both these processes must be attended to in order to create value in the long term and to avoid the previously mentioned excess costs and rogue development. There are probably many lessons that can be learned from the product development process but also many idiosyncrasies that must be addressed. One outcome of a non-industrialized process is market and/or customer specific solutions that are hard to maintain, update, and to overview. Often these can also be based on individuals and thus highly vulnerable.

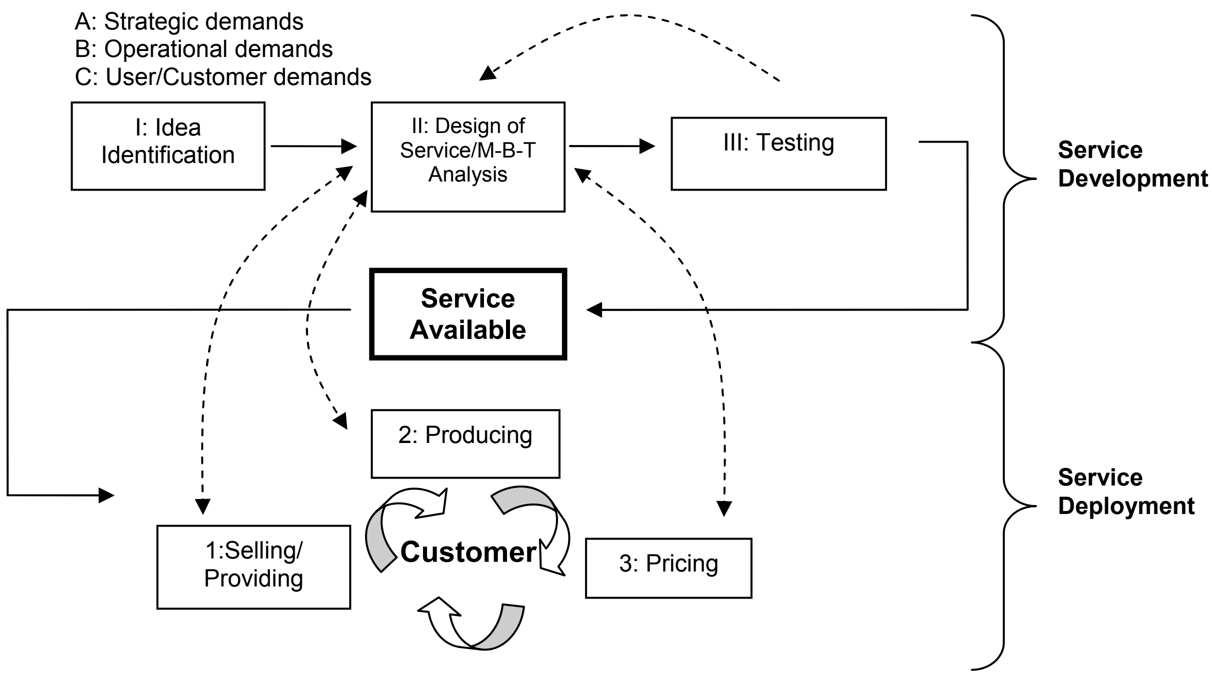


Figure 7. Illustrating the two service process that must be considered during industrialization.

Looking at the two processes identified in the figure above certain characteristics can be emphasized. The Service development process is most likely a process that is initiated and carried out at irregular intervals whereas the Service deployment process is continuous, i.e. carried out much more frequently. This of course has implications on how you approach issues such as standardization and customization.

In the Service development process it is important to be aware of the fact that there are a number of different inputs (demands) that can generate ideas (I in Figure 7 above) for new services; Strategic, Operational, and User/Customer inputs. Once the idea is identified, and has a genuine foundation, it is time to design the service and also to do a more thorough analysis (step II), for example the so-called M-B-T analysis outlined earlier. Questions that might be asked here include to what degree these services can be modularized, standardized, and ultimately industrialized (e.g. depending on number of customers and how generic the need is). Another important aspect is to decide what we can do ourselves and what must be outsourced but still offered. For example, Metso Minerals sometimes rely on outside contractors to perform certain maintenance activities. That is, decide on the value constellations needed (cf. Stabell & Fjeldstad, 1998; Normann, 2001). Last, but certainly not least, the service and/or offering must be tested with customers but also internally (operationally). If these tests unravel aspects that are unsatisfactory, redesign of the particular service/offering might be necessary.

Looking at the Service deployment process, a key aspect is the central role played by the customer. Often services are produced and consumed at the same time meaning that the customer is participating to a varying degree. Selling, Pricing, and Producing (1, 2 and 3 above) are activities that of course must be addressed already in the Service development process but to a large extent is carried out as the service is deployed. For example, depending on the customer (relationship or transaction) and the market (maturity etc) these activities can be carried out differently with different results. These activities, as mentioned above, are often performed in an interaction with the customers.

Some aspects of service development and deployment are somewhat difficult to pinpoint. One of the most interesting is the bundling issue, and more specifically where bundling takes place. There are good arguments for addressing the bundling of products and services both during the development process as well as the deployment process. This can be argued to be at the very core of how industrialization takes place within companies and ties in very closely with the centralization/decentralization question discussed in the subproject *Industrialization*. Here ICT (Internet and Communication Technologies) can play a major role by facilitating the information exchange between levels and parties within an organization and thus enable both centralization and decentralization depending on what is needed (see e.g. Sawhney and Parikh, 2001).

Standardization

In order for companies with after sales organizations to be able to offer profitable and valuable services/offerings to customers a degree of standardization must be achieved in these offerings. So-called rouge developing and selling of non-standardized offerings usually means run-away costs, reinventing the wheel, as well as increasing quality problems. Getting things in order in the back-end is often more difficult than to come up with new exiting things to sell.

Three different levels of standardization have been identified in this project and should be pursued. All three are important but to various degrees depending on the situation and context of the company in focus. These correspond to similar processes regarding products. The three identified are:

- *Standardization of the service development process*
- *Standardization of the service offerings*
- *Standardization of the service deployment process.*

One of the first issues on the road to standardization is the make sure that services developed for, and offered to, a single customer has the potential to be fast and easily generalized to the whole range of customers. This in turn points to the importance of paying attention to the first process of standardization identified above, development of the service. Over time many services will probably become qualifiers for competing instead of providing a competitive advantage which again emphasizes the importance of standardization. With companies manufacturing and selling a product (i.e. most industrial companies) it is pivotal to have an integration and coordination between service development and product development so that the products that often "carry" the services offered are suitable to this (most obvious perhaps are maintenance issues). On a final note here it is pertinent to mention that sometimes it might make sound business sense to overlook the standardization aspects if there are other important factors that must be taken into consideration (e.g. a request from a large and important customer with reference potential).

Many companies devise different levels of service offerings that customers can choose, for example bronze, silver, and gold with different levels of service and thus different prices (and even pricing schemes) Through this customers can choose, and pay, for what they need and want, and through this it is often possible to achieve a degree of customization and still retain the benefits of standardization.

The third standardization process deals with how the service is deployed. By standardizing this process companies' aim for control and coordination of activities as well as lower cost related to human errors. Here education of employees, e.g. how to meet a customer (see the *Customer Touch-point* subproject), and how to address issues such as up-selling and nurturing the customer relationship, e.g. in order to understand the customer and his processes better, becomes of essence.

Customization

Although customization seemingly is the opposite of standardization this is not entirely true. In order to be profitable in customization efforts companies must, usually, pay sufficient attention to standardization issues not to venture into the mentioned run-away costs and plethora of, often similar, services and offerings. Customization is often seen as the road to profits and success. Customization to an extreme means new and unique products and services to all customers. This might however also be a sure way into the red. If customization is highly decentralized and without any coordination between efforts, costs often soar due to e.g. duplicate efforts and lack of control.

For example, within companies with operations in several markets service development have often been ad-hoc and thus similar but yet different services are offered to customers in the different markets. Not a big concern for the customers this can however amount to problems for the selling company. By conducting an overview of offered (and prospective) services it is very possible that several services can have much in common which open the possibility to create synergies and modularize parts of the service offerings, without this being visible for customers, in order to become more cost efficient (as opposed to cost driving) and to "industrialize" the services. Important to note however is that though the majority of offerings probably can be industrialized there are a number of services that truly are customer specific and should stay that way (e.g. due to the importance of the customer or the profit margin of that particular service).

The flip side of the customization coin is that although customization generally is perceived as something positive, too much customization can land a company in the same problems as above with run-away costs (both maintenance and developing) but also a multitude of different services without the possibilities for economies of scale and scope usually necessary for value creation in the long run.

Customization is also a very powerful tool when it comes to creating stronger linkages to customers and also increasing lock-in effects. By having customized offerings the perceived value for customers becomes higher and it also becomes harder for the customers to switch suppliers and thus giving the supplier a stronger and better position.

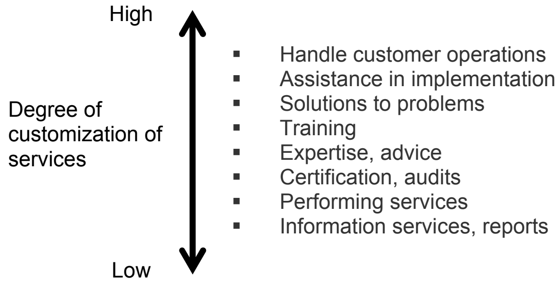


Figure 8. Indicating the degree, or level, of customization needed in a number of typical services.

Not all services can, or should, be customized to individual customers. Too much customization, no matter the degree of standardization, leads to increasing costs in e.g. development. It is vital to, already in the design phase, to determine the level of customization needed (and wanted). Different customers as well as different services demand different levels of customization (see Figure 8 above).

5. Case Description – Metso Minerals

Introduction

For Metso Minerals increasing their service business is an important way to increase both turn-over and market share. Metso Minerals' operations are divided into four Business Lines: Crushing and Screening, Minerals Processing, Wear Protection and Conveying; and Recycling.

For the Metso Corporation the strategic cornerstones are:

- In-depth knowledge of customers' core processes
- Integrated automation and process technology
- Large base of installed machinery

The focus in this case is on Wear Protection and Conveying. Reduced costs, improved working environment and an optimized process are just some of the benefits users of Metso Minerals products can get, according to Metso Minerals vision, since they introduced rubber as the wear material more than four decades ago (for more information see www.metsominerals.com).

Organization

The after sales organization at Metso Minerals has a close cooperation with the capital sales organization.

One "traditional" problem in the area of after sales is how to distribute costs and revenue tied to services. Metso Minerals address this issue through more detailed and focused reporting. This also ties in with the importance of having an appropriate incentive scheme that rewards the appropriate behavior with the right people (departments).

Customers

Metso Minerals customers can be divided into three broad groups:

- Mining
- Agriculture
- Other

Looking at the after sales services they can be classified into two groups based on the type of installation of the products:

- Long-term installations in e.g. mines.
- Time-limited installations at e.g. road works, dam construction, and other projects.

For long-term installations focus is often to minimize down time (and thus maximize productivity) through planned and preventive maintenance. Service agreements for these customers can have different content but usually Metso Minerals' service organization performs most maintenance on site. Another possible agreement is that Metso Minerals supply parts and guarantee availability and the customer's own service personnel perform the actual maintenance.

Most of the time the customer chooses the type of service agreement needed, and wanted, when purchasing new equipment of refurbishing their existing equipment. For project installations service agreements are not usually set up and if the equipment breaks down Metso Minerals service personnel come out to the site and repairs it. Not only different customers demand different solutions and services but it is also possible, and necessary, to segment in markets. That is, different markets also demands different solutions. For example, in some markets Metso Minerals operate their own service organization (e.g. in large parts of Europe) whereas in some markets they buy these services from independent companies. This of course has bearing on the set of services offered but it also have indirect effects on e.g. up-selling.

After sales services

Key aspects that drives after sales services

- Limiting the customer’s non-operating time.
- Develop offerings with a higher value than 3rd party.
- Lack of mining personnel/knowledge for customers.
- Not a core competence for customers.

With products that have an expected lifetime of more than 40 years after sales, and after sales services, are of prime importance within Metso Minerals. This long operating life of the products also means that many third-party suppliers for after market services exist since over the lifetime this has the potential to generate much profit.

Type of after sales services

- Service level agreements.
- Training.
- Operational support.
- Operating for the customer.

The larger part of the existing after sales services are traditionally focused on in-direct material used for protection in the equipment. These materials are essential for guaranteeing a satisfactory uptime of the machinery and high quality of the mineral process the equipment is part of.

One way to add value through after sales services is to device more complex services moving towards what has been called functional sales, system- and solution-selling. That is, taking on a greater responsibility than “just” selling the equipment meaning focusing on the functionality (and related parameters) instead. One interesting avenue looked at by Metso Minerals, and also implemented in some locations, is various profit sharing schemes. This means that Metso Minerals and a customer shares the profits of an installation but also shares the risks. Metso Minerals guarantees the functionality of its products (in e.g. number of tons processed in a mine) and in return gets a share in the profits of the installation thus working like an incentive for Metso Minerals to keep their equipment in the best possible condition. This can work due to the superior knowledge that Metso possesses regarding the equipment and factors influencing its operation.

It is however important to have a degree of openness and transparency when setting prices. It must be possible to align prices over time due to e.g. increased prices on raw material and also changed costs of personnel. This can have the added benefit of making the contracts possible to move between markets and/or countries. The price is usually set dependent on three components (also see the *Pricing* sub project):

1. *Raw material costs*
2. *Labor costs*
3. *Administration costs.*

Value creation

Identified within the Metso case was a few different mechanism/logics for value creation:

- *System solutions made up of modules.* This yields cost reductions for the customer (through e.g. lower LCC – Life Cycle Costs). Furthermore it produces a lock-in effect and it also put availability and price in focus as opposed to only price (i.e. getting the lowest price).
- *Create incentives.* This is a responsibility for the service organization in cooperation with the different market companies. To create incentives and reward schemes that encourage and reward the selling of services is important.
- *Resilience and a long-term focus* is needed since it can take up to 5 years from first contact and until an extended service contract is signed. This can however yield profits over a longer time period as well as a longer and closer relationship with the customers

Opportunities and challenges

Many customers exhibit both a lack of knowledge and a lack of personnel in the area of service (and also perhaps a lack of interest) and therefore are interested in outsourcing this area. Obviously this leads to a greater demand for service offerings and thus opens up new opportunities for Metso Minerals.

The after sales market is also attractive to 3rd party providers (often low cost) of primarily spare parts. Creating value and offerings that convince customer that Metso Minerals should be their preferred supplier becomes key issues for long-term survival.

6. Case Description – Volvo Bus

Introduction

Volvo Bus is part of the Volvo Group, a global manufacturer of trucks, excavators, construction equipment, marine engines, air and space engines, and buses. After sales activities have historically been handled at a local level (geographical sales companies), and on a central level the focus have primarily been on supporting this local business with spare parts, training and support. However in all of their business areas the competitive landscape is changing, introducing customers with new demands on the operational phase of the products which means that the business units have increased their focus on the after sales activities (for more information see www.volvo.com/bus/global/en-gb/).

The vision for Volvo Bus Services, as formulated 2005, is

> *We use our expertise to create transport related hard and soft products of superior quality, safety and environmental care for demanding customers in selected segments.*

Organization

The increased focus on services means that the traditional thinking in departments (sales, spare parts, maintenance, financing, services etc) has to be combined with a thinking based on the customers' situation. Four aspects are identified as essential in driving the development of after sales services:

Segmenting the customers into markets can lead to a situation where key customer aspects are replaced with an average customer that does not exist or accounts for a very limited part of the total market. Volvo Bus have identified that they need to understand the characteristics of their customer business if they should be able to increase their after sales service market. For a high value of the services offered, the customer business situation has to be understood in detail.

Historically, the customer has evaluated the bus product and any services (maintenance, spare parts, training, technical advice etc) separately. Consequently, the bus product is in focus since it represents an investment of up to € 200 000, whereas services, if evaluated at all, have been seen as something that can strengthen the bus product offer. This situation has radically changed since some customers demand a complete business solution to evaluate instead of separate offers.

This system thinking has at least two dimensions; one concerning the bundling of products and services into a business solution (discussed above), and the other concerning the connection between a business in one market with businesses in other markets. Connecting businesses in several areas together means that synergies can be made but it can also form a platform for developing new and innovative services, e.g. creating value for customers with operations in several geographic markets.

Key aspects that drives after sales services and organization

- More knowledge and involvement in the customers' business.
- Total solutions are becoming a prerequisite in some industries.
- Have knowledge to widen the service scope into consultative services
- System thinking in our sales can expand our service business.

Customers

Volvo Bus's customers can roughly be divided into three groups:

1. *Small operators with around 10-50 buses primarily long-haul.*
2. *Small and medium city and intercity operators with city and intercity buses.*
3. *Large city and intercity operators with a fleet of up to 3500 buses.*

Within the two latter and especially group three, various service agreement are discussed that revolves around availability, service intervals, and the cost of ownership per kilometer. These agreements are becoming pivotal for both customer retention and acquiring new customers. For the first group Volvo Bus offers various standard offerings that include, among other things, financial services and insurance solutions. One example of this is the Volvo Card which gives these operators better overview of their total costs (e.g. service, fuel, tires, and maintenance).

Group three customers very seldom evaluate the services individually but rather see services as part of the life cycle commitment. However as for the first group of customer the overview on the performance on each bus, group of buses, type of services etc is rather high demanding different types of measurement systems. The measurements system is hereby forming a basis for the communication of the value created. For the group two customers the situation is a mixture of the other two, both this a customer group that more and more turn their attention into business solutions. However they still tend to separate decisions concerning capital investments and operational costs to different levels in their organization, making it difficult to establish business solution relation.

Summarizing we can see that customer demands focus more on increasing their revenue (e.g. through one point of contact for all Volvo Bus aspects, as well as smoother operations in terms of control and predictability) and supporting a continuous work on lowering the operational costs (e.g. through Life Cycle Cost, LCC, focus or Total cost of Ownership, TCO).

For Volvo Buses the focus on after sales services is way to

- Enhance the customer relations. Creating a reputation of being able to provide complete business solutions is of great importance.
- Enhance customer retention. Contact points with customers increases and if handled systematically can form a base to increase the customers trust for Volvo Bus as provider.
- Increase and predict the business over the products complete life time.

Key customer aspects

- Smoother operations (in terms of control and predictability.
- Lower Life Cycle Costs (LCC) or Total Cost of Ownership (TCO).
- One contact point and one contract.

After sales services

Spare parts, service, maintenance, fleet management systems, oils, fuel, driver education, maintenance education etc – the range of after sales services offered by Volvo Bus is wide and expanding. An interesting dilemma that was identified after an analysis of the after sales services offered was that Volvo Bus focus was on the exact opposite of what customers want; customers get "rewarded" when the bus is in operation and Volvo Bus when it is in the repair shop. This however is not a unique situation for Volvo Bus. A new goal is therefore to create new offerings based on that the bus should stay in operation. This also creates new and more opportunities to sell and builds customer loyalty. Furthermore, it opens the possibility to communicate the value Volvo Bus creates from a more positive perspective, i.e. the bus is in operation.

Volvo Trucks, another part of the Volvo Group, has been focusing somewhat longer than Volvo Bus on after sales and therefore experience gained there can be of great help. However, the nature of the buses (as opposed to the trucks) means that the complexity increases due to product specific characteristics such as chassis, interior design, passenger information systems, and driver support. This means that there are opportunities to include more services in the different offerings (and thus, ideally, provide more value).

The cost structure for the Volvo Bus customer can be divided into driver related cost (salary, training, diagnosis, checking), capital cost, fuel costs, taxes and insurance, and service and maintenance cost. Of the total cost are the driver related cost approximately accounting for 45%, capital and fuel costs for 20% each and the two other groups for 15% together. However setting a focus on reducing the total cost mean that the target cant be on reducing only the service and maintenance costs, since the size of it is largely related to how the bus is used, the training of the driver, the ability of the driver to make the right diagnosis, etc. Consequently for Volvo Bus to focusing more on services that can both create benefits and value for the customer and Volvo Bus.

Value creation

Volvo creates value for their customers in terms of services in a number of different ways. They offer a number of so called extended offers in addition to the actual bus. These extended offerings are based on:

- *Finance programs.*
- *Fleet management systems.*
- *Assistance programs.*
- *Maintenance programs.*
- *Operation services.*

They aim to, based on identified customer groups and their needs, focus on and offer more complete solutions taking care of a larger share of the customers business (and value). This is achieved by combining, or bundling, a number of services and products from different product group (as above).

Another way of offering this is to devise standard levels of service within these offerings (e.g. Comfort, Optimal, Prestige packages).

Opportunities and challenges

Inherent in a push for after sales services are a number of opportunities closely related to the development and production of services. Gaining more knowledge about customers and their business is perhaps a prerequisite for selling services at all but by offering and selling services a large potential for furthering Volvo's knowledge regarding their customers can be opened up.

Furthermore it may become possible to sell consultancy services that are an area where Volvo has little or no presence.

A number of aspects that can be sorted under both opportunities and challenges are the fact that although Volvo Bus offers complete bus solutions they have not systematically focused on the whole picture which hurts both the customers and Volvo Bus. Finally it is important to be close to the customer if a change of focus or needs emerges in order not to miss business opportunities to other actors that a new (profitable) service could take care of.

A challenge with more complete offerings is a blurring of who should offer what, where, and when (e.g. included products and service and the actors that provide them). An additional problem with this is who should get what of the profits made from these offerings. The value provided by different actors in the value chain (Volvo's) becomes harder to see and measure (and thus reward).

7. Conclusion

What is needed for successful after sales service is continuous development. Factors and services that are considered order winners and value adding today are, more often than not, just mere qualifiers tomorrow. Imitators and technology development force companies to think about services much like products, paying attention to issues such as continuous improvements, and research and development. That is, the time (especially development over time) factor needs to be considered.

The perhaps most important conclusion is also perhaps the most obvious one: Value from services, and thus profits, is to a great extent dependant on an interaction with and understanding of the customer's situation, processes, and needs. Therefore companies need to understand not only their customers' business but also their processes and the customers' customer. In other words, a more complete understanding is necessary in order to design and deliver the appropriate after sales services.

One apparent mechanism to achieve this increase in interaction and coordination is Internet and Communications Technologies (ICT). They open up new interesting ways of connecting companies (e.g. through interactive services) closer together and also helping companies to become more efficient and effective internally by e.g. providing service technicians with mobile solutions enabling them to perform activities faster and more accurate but also to perform more problem solving and pre-emptive activities.

Value creation is often a cornerstone when companies are attempting to differentiate themselves (a differentiation strategy). Services are often used for differentiation purposes in an attempt to move away from price competition. The multidimensional economic thinking (economics of service + economics of customer + economics of systems) can be a platform for realizing value creation potentials from the perspective of both the supplier and the customer. Thus it makes perfect sense to combine value creation and after sales services when discussing contemporary companies and how they are to succeed.

Another way to look at after sales services and the creation of the same is through the previously mentioned M-B-T (Market-Business-Technology) framework. The major insight from this adaptation is that companies ought to pay attention to all aspects of the framework when developing and launching new services. A new service must make business sense, i.e. be justified from a business perspective, it must also have a market, i.e. be demanded from customers, and it must also be technologically feasible. It is easy to neglect one of these dimensions and thus come up with an offering or service that in the end does not contribute to profitability.

8. References

Amit, R and Zott, C (2001), Value Creation in E-business, *Strategic Management Journal*, 22(6-7), 493-520.

Anderson, J C, Jain, D C and Chintagunta, P K (1993), Customer Value Assessment in Business Markets: A State-of-Practice Study, *Journal of Business-to-Business Marketing*, 1, 3-29.

Brandenburger, A M and Stuart, H (1996), Value-Based Business Strategy, *Journal of Economics and Management Strategy*, 5, 5-25.

D'Aveni, R A (1994), *Hypercompetition: Managing the Dynamics of Strategic Maneuvering*, The Free Press, New York.

Hax, A and Wilde, D L (1999), The delta model: Adaptive management for a changing world, *Sloan Management Review*, 40 (2), p11-28.

Johansson, McHugh and Pendlebury (1993), *Business Process Reengineering: Breakpoint Strategies for Market Dominance*.

Kothandaraman, P, and Wilson, D T (2001), The Future of Competition; Value-Creating Networks, *Industrial Marketing Management*, 30, 379-389.

Kotler, P and Armstrong, G (1997), *Marketing: An Introduction*, 4th ed, Prentice Hall, NJ.

MTC (2003), *Morgondagens tjänster: Utveckling och konsumtion av device-förmedlade digitala tjänster*. MTC.

Porter, M E (1996), What is Strategy?, *Harvard Business Review*.

Stabell, C B and Fjeldstad, Ö B (1998), Configuring value for competitive advantage: On chains, shops, and networks, *Strategic Management Journal*, 19, 413-437.