#5
PSS ORGANISATION

A workbook in the PROTEUS series

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5 # PSS Organisation

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WHAT IS IN THIS BOOK?

In this fifth workbook in the PROTEUS book series the organisational challenges related to the change from being a manufacturing based company into an integrated product/service-oriented company are described and processed. During this transformation, companies often face complex challenges, as the new PSS strategy will impact many, if not all of the departments in the company. The first section of the book describes these impacts and offers guidance on how to decompose known organisational barriers and overcome the challenges related to the transition toward PSS. The main section of the book provides a structured approach towards how to define and implement a PSS strategy on an organisational level, by dividing the transition into seven stages. This approach is built on knowledge obtained from research conducted within the PROTEUS project's collaboration companies, combined with well-proven tools from literature. Within each of the seven stages described, specific actions are presented, as both inspiration and concrete advice of how to act during the transition process. The main intended audience of this workbook is the company, which is still exploring PSS as business strategy, or on the verge of implementing it. Within each chapter of the workbook, questions are presented to the reader, to facilitate a self-assessment of the organisational PSS potential of their company.

PSS Organisation

A workbook in the PROTEUS Series

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INTRODUCING PROTEUS

PREFACE

The vast majority of countries in the developed world are now dependent on their service sectors for between 70-80% of their gross domestic product. Even companies with decades of expertise in producing manufactured products are experiencing an increased need to understand before-, during- and after-sales service and have therefore embarked on business development activities that tightly combine product and service offerings in their portfolios. Closer customer contact, commoditisation of goods, total cost of ownership, and product liability are just some of the reasons for this transition. As yet there are only few systematic guidelines and instruments available to aid the development of servitised products. Therefore this series of workbooks. In this fifth workbook we describe the differences between the traditional organisation of manufacturing companies and the "servitised" PSS company. The PROTEUS research is ripe with cases of companies, which have faced a good share of organisational challenges in pursuing a PSS strategy. For this reason the recommendations provided in this workbook should be seen as important in reaching the desired PSS goal. Although this book is written primarily for our partners on the PROTEUS project, we are sure it can be a source of inspiration to a broad range of practitioners, policy makers, academics and students.

Professor Tim McAloone, PROTEUS Project Manager

WHAT IS PROTEUS?

The Danish Agency for Science, Technology and Innovation (DASTI) promotes and funds so-called innovation consortia, a novel constellation of research and innovation activities, involving industry, technical service companies and research institutions. The idea with innovation consortia is to promote the relationship between research and actual innovation activities in industry, resulting in both enriched research recognitions and applied industrial results. PROTEUS is one of DASTI's current innovation consortia, which focuses on the Danish maritime industry, particularly from the viewpoint of suppliers to the industry.

THE INNOVATION CONSORTIOUM'S FOCUS

The PROTEUS Innovation Consortium is working to jointly develop new knowledge about how after-sales service can be effectively integrated into business and product development in industrial organisations, so as to become a source of revenue and value, rather than a cost to the company. The company participants in PROTEUS are all from the maritime industry and are interested in understanding, through examples, how to effectively and systematically integrate service development into their product development and business creation processes.

UNIQUE WITH RESPECT TO PSS

Current literature, tools and methods on Product/Service-Systems (PSS) include examples of procedures for the integration of product and service features in product development. However these approaches do not consider a number of key areas for business, such as the commercial considerations, the strategic organisational issues, or the possibilities of collaboration across the value chain. With its industry-wide consortium of companies, PROTEUS is in a unique position to begin to address some of these issues from a whole branch perspective.

PROTEUS PROJECT IN DETAIL

The PROTEUS* project is a 3 ½ year Innovation Consortium financed by the Danish Agency for Science, Technology and Innovation (DASTI). The consortium is formed by ten companies (see page 10), a branch organisation, two research institutions and an engineering consultancy. The participating companies are mainly suppliers of equipment used in ship building, operation and maintenance. Danish Maritime is the branch organisation, where most of the participating companies are represented. The research institutions are DTU Department of Mechanical Engineering and CBS Department of Operations Management. Finally, IPU Product Development supports the project with its services in engineering consulting and methodology implementation.

* The name of the consortium, **PROTEUS**, is an acronym for the research project title: "**PRO**duct/service-system **T**ools for **E**nsuring **U**ser-oriented **S**ervice". It is also an apt title, as it is the name of a mythological Greek sea-god, symbol of adaptability in the face of the changing nature of the sea.

But what is PSS?

PRODUCT/SERVICE-SYSTEMS (PSS) is an innovation strategy, where a greater integration of products and services has the potential to decouple business success and economic growth from mere product sales.

Instead of viewing a product as an isolated entity, the PSS design activity focuses on creating the right combination of products and services, needed to aid the customer in reaching their goal. Incorporating service thinking into the product development process gives rise to new business opportunities; the product has the opportunity of being made more robust throughout its life cycle (i.e. it is 'Designed for Service') and the customers' entire needs and activities are considered and catered for, from the very beginning of the development process. A PSS solution does not necessarily imply that the service provider is the producer of the physical product(s) included in the PSS, but the service provider must take responsibility for the delivery of the service to the customer, including its timing, physical elements, agreements and related risks. Examples of PSS are emerging in a broad range of markets, from Business-to-Consumer (B2C), through Business-to-Government (B2G) to Business-to-Business (B2B).

PSS
AND THE
ORGANISATION

TOWARDS A
PSS ORGANISATION

A JOURNEY OF CHANGE

The journey of transformation, from being a manufacturing-based company towards providing integrated product/service solutions, calls for an enhanced focus on the organisational ability of embracing and maintaining a new PSS business strategy. The implementation of PSS affects many, if not all, departments in the company, ranging from the financial, through R&D, marketing and service, to sales departments. In the PROTEUS project it has been observed, that existing organisational structures inside many of the participating companies have often been the main cause of the development and implementation of PSS strategies to stalling in the company. Based on this experience the companies have realised that the only way to comply with the

PSS strategy is by initiating change throughout their organisation, by undertaking a necessary journey of transformation. This journey is not trivial, for which reason the main goal of this workbook is to enlighten the reader in the organisational mechanisms taking place when implementing the desired PSS strategy. Similarly the workbook provides guidance on how to successfully be at the forefront of the inevitable emerging challenges. It is the task of this book to communicate that the optimised and effective PSS-minded organisation is regarded a key parameter for every successful PSS company. As for every transformation process, allowing what is emerging to take place is as important as well to visualise the desired situation. But what does a PSS organisation actually look like?

SPELLING THE PSS ORGANISATION

The PSS organisation stands out in several dimensions, when compared to a traditional, manufacturing or product-minded organisation. Our empirical research in the PROTEUS project has uncovered a number of characteristics, particular to the PSS organisation, which allow for patterns to be recognised, even though they will differ slightly, from company to company. These are described in the following pages.

Network thinking

Influencial positions being the ones highly related, acting as natural centers of decision.
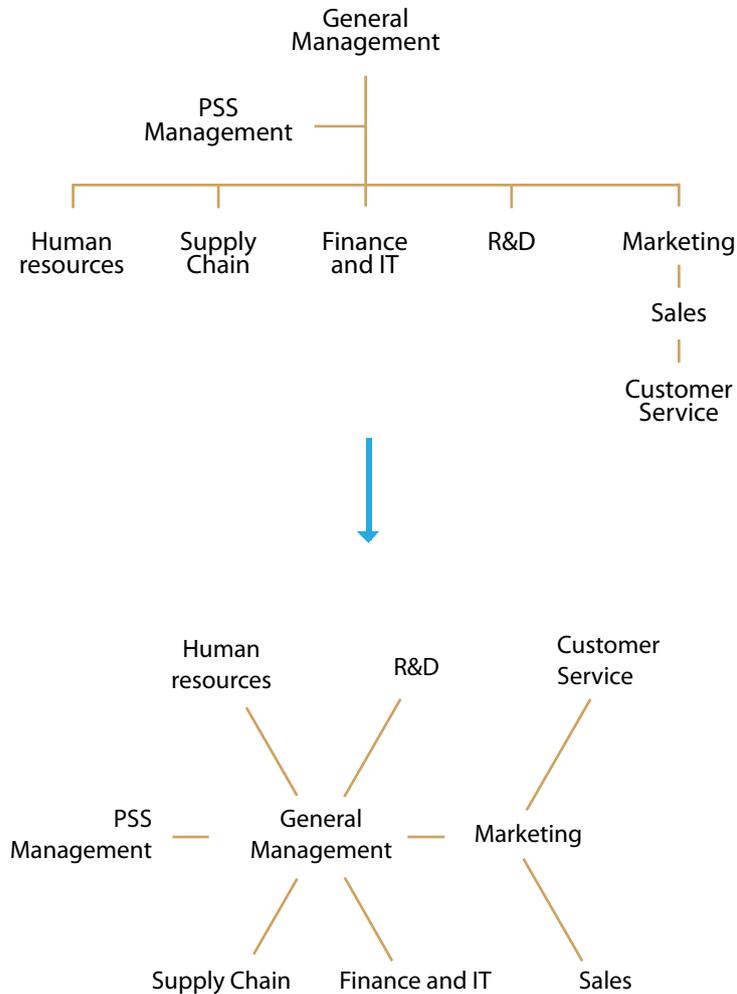


Figure 1: PSS organisation's characteristics.

User centric

All departments creating value for users and customers, opening up new relationships and value streams
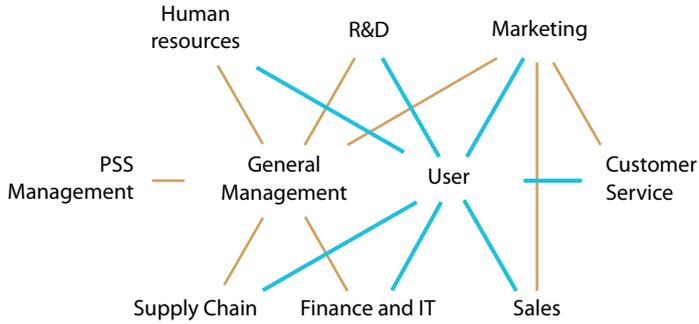

Shared understandings

Embracing change in the organisation as a whole; e.g. the new integrated product/service identity, shift of customer contact from transactional to relational, etc., sharing the same language.
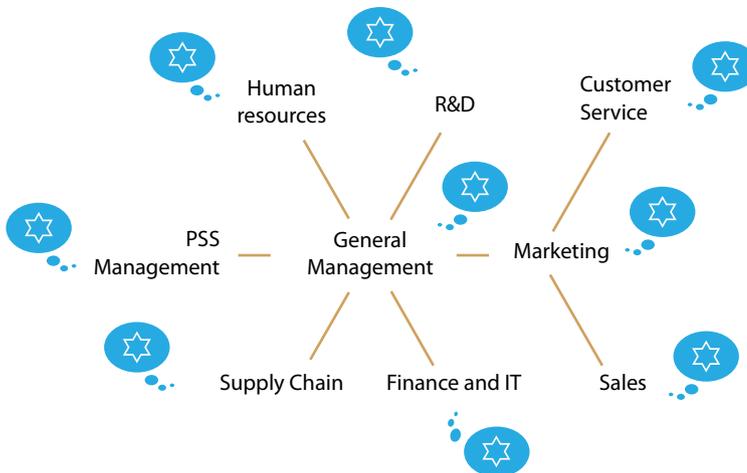
Horizontal integration

Value and communications emerging also through departments' collaboration, shared goals and performance indicators.

Human resources — R&D — Customer Service

PSS Management — General Management — Marketing

Supply Chain — Finance and IT — Sales
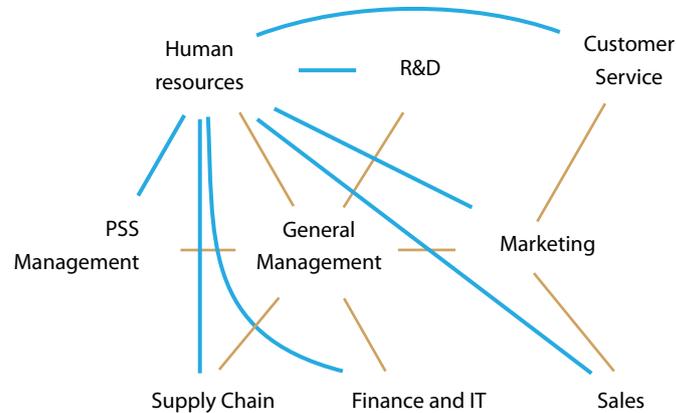
Actionable data

Continously measuring and visualising the value creation process as internal operations, reinforcing the culture of innovation.

Human resources — R&D — Marketing

User Activitiy Cycle

PSS Management — General Management — Customer Service

Product/Service Life Cycle

Supply Chain — Finance and IT — Sales
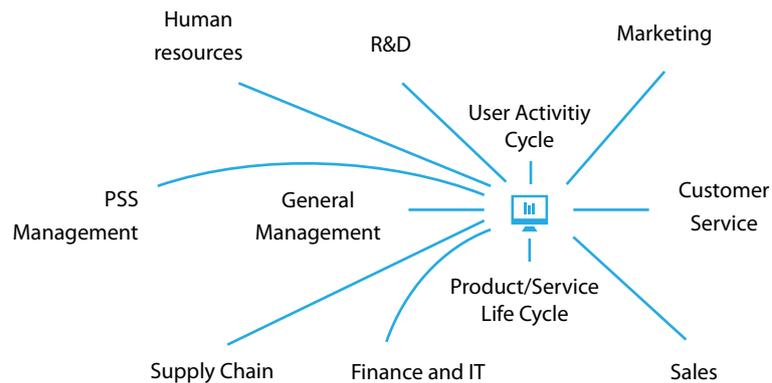
ORGANISATIONAL CHALLENGES

The success of an organisational transformation process is highly dependent on how challenges are dealt with as they arise. Some challenges will occur unexpectedly, but by studying the PROTEUS companies and also comparing with literature, it is seen that the majority of the challenges related to organisational change can be forecasted and divided into two groups:

Organisation level challenges - Contains the challenges related to creating an understanding of the necessary PSS organisation and how to transition from the current to such a new organisation.

Employee level challenges - Contains the challenges related to the change in the organisation on the level of the employees – more related to classic change management challenges.

The challenges at employee level are well documented and can be described and dealt with using known change management tools.

The challenges at organisational level are more difficult to overcome, as the development of the PSS organisation is a relatively new area, with scarce tools and a low number of documented cases. By categorising and describing these challenges it is, however, possible to tackle them in a systematic and strategic way, as they occur during the different stages of the change process. These challenges are described following.

TIME AND RESOURCES

Transforming an organisation into PSS takes time and demands a certain amount of resources, as change processes often do. It is, however, seen that companies typically underestimate this challenge and therefore invest too little time and commitment into the process. This often leads to half-hearted attempts of implementation, which will not be sufficient to build the needed service level in the company. The companies studied as best practice PSS case examples for the PROTEUS project (see Workbook ❷) state unanimously that the complete transformation process can take several years, from the time of initial exploration of the PSS possibilities to having a fully operational PSS company.

COMPANY CULTURE

The PSS organisation calls for a proactive and service-minded organisation. To provide this the company culture often needs to adapt, in order to comply with a new and much more customer-connected

Organisation

Employee

PSS business model. The success of such an adaptation is highly related to the mindset of the individual employees and the internal political/strategic mechanisms within the company. Examples in literature have shown that it can be difficult to adapt a strongly embedded traditional manufacturing culture into a service-ready culture. The lack of an embedded PSS culture has been observed in the PROTEUS project as a main reason for the stalling of the servitisation process. It is therefore essential to carefully deal with this challenge.

CUSTOMER TOUCH-POINTS

As the PSS company must provide both products and services, the number of customer touch-points is expected to increase. This entails that functions in the company, which have previously been placed in the "back-office" become important components of the provided services and must therefore be adapted, to become front-office oriented. The activity of turning internal systems inside-out, ready to show them off to the customer is often seen as a challenge for companies, as it manifests a fundamental change in the way to approach and engage the customer. Changing this area demands for more customer insight and communication skills of the individual employees, plus a fundamental shift in the border between front- and back-office activities and systems. →

→ This area is therefore highly related to the challenges of company culture and internal communication. Done properly, the realignment and increasing of the touch-points between the provider and the customer will make for far more opportunities to engage with and therefore also do business with the customer.

INTERNAL PROCESSES AND CAPABILITIES

Change is often needed in order to align (and in some cases initiate) the product development and service development processes, which are necessary to deliver combined product service offerings. Challenges often occur when trying to disassemble the silo thinking mentality, which is the norm for many manufacturing companies. The difficult task is to encourage the employees to

work across the organisation, in order to realise that the capabilities within the organisation are insufficient and that new competencies or technical solutions are needed. It is clear that without a specific infrastructure for providing services, the company will find it difficult to comply with their PSS strategy.

To deal with this challenge, the alignment of internal processes needs to be followed by the implementation of shared metrics for comparing the performance of the departments across the company. The challenge here is to define metrics, which are sufficient to provide a true picture of the performance status.

COMMON INTERPRETATION

The close relationship with customers

and establishment of new partnerships requires the PSS organisation to speak a common language internally. This is needed in order to perceive and understand the customer in a consistent way. Development of a shared language and mindset is a must for succeeding in this task. Examples from PROTEUS have showed that it can often be challenging to make every level in the PSS company understand the actual value of the services provided to the customers.

SUPPLIER RELATIONSHIPS

Supplier relationships are imperative, as the PSS company is dependent on deep insight into their customers' challenges and applications. The relationship to suppliers is often difficult to change, as companies have a tradition of tackling the relationship via a top-down

strategy, where it is normal to apply pressure on suppliers, regarding on-time (and maybe even ahead of schedule) delivery, at ever-pressured cost. The challenge and indeed opportunity of understanding and building supplier relationships is key to the success of PSS. It is given special attention in Workbook ❻.

INTERNAL COMMUNICATION

Lack of internal communication has been identified as a barrier, which has substantially delayed the change process and has proven to be challenging in the PSS development process within the PROTEUS companies studied. Internal communication is vital in order to handle the increased number and types of customer touch-points, as well as to improve and maintain internal (back-office) processes. Strong internal communication channels are often seen as enablers of new product/service offerings and many of the offerings identified in Workbook ❶ are dependent on this. Vertical communication channels are especially valuable in the PSS organisation and are often the most challenging to enable, as there is commonly no tradition for this communication.

Becoming familiar with the challenges identified as common for most PSS transformation processes, describes the first step towards overcoming these. The challenges cannot be linked directly to a single stage of the servitisation process, but may be dealt with in several stages. This will be clearer after having assessed the seven stages described in the following chapters.

SEVEN STAGE FRAMEWORK

The literature describing the organisational mechanisms related to product/service-systems is scarce. Fortunately the challenges that arise during a company's process of servitisation can largely be handled using known methods from change management theory. This workbook provides a stepwise approach to the servitisation process. The approach is based on seven stages, presented in Figure 2 and thoroughly explained in the following chapte. The seven stages describe an organisational servitisation process. The approach is inspired by Kettinger's six stage framework, originally designed for business process reengineering. To handle the challenges that specifically relate to the servitisation process, Kettinger's framework has been configured and adapted. The adapted framework follows a sequence logic that closely follows the empirical insight that we gained in the PROTEUS project by observing the participating companies.

The basic idea of the seven stage approach is to make sure that the PSS transition is being handled as a planned and structured process. In our experience the framework will not fit perfectly to every company situation, for which reason we encourage the reader to adjust the framework as needed.

The stages must therefore not be regarded as a complete guide but used to find synergies with PSS development or business strategies, for example, thus taking the organisational aspects as the soil for a fruitful transformation towards integrated product and service business models.

Explore

Engage

Initiate

Analyse

Redesign

Launch

Maintain
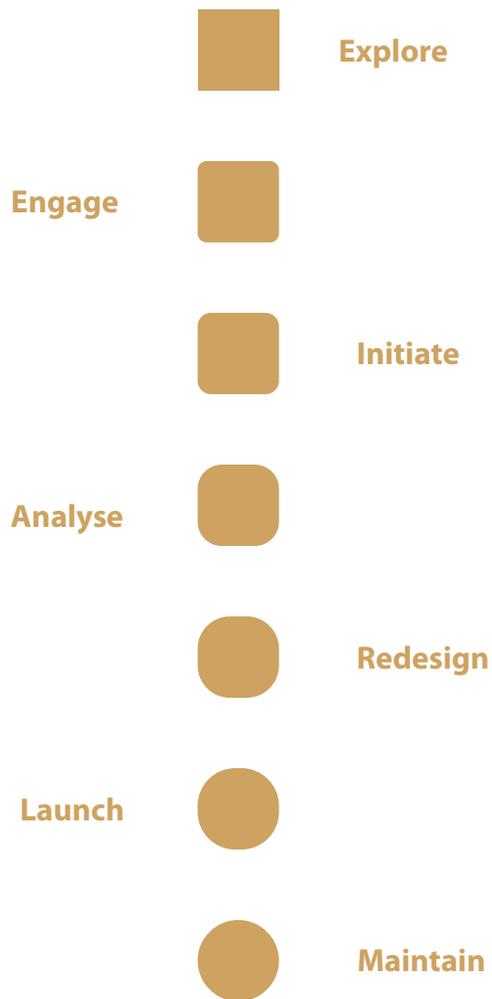
Figure 2: The seven stage framework of PSS organisational change**.**

TRANS-FORMING YOUR ORGANISATION

EXPLORE

The *Explore* stage is almost a constant phase for any company. It is the stage where the company explores different business opportunities, tests new technologies and identifies user and customer needs. Related to PSS organisation the Explore stage is where the company starts investigating the possibilities of PSS, upon which basis new initiatives are started, regarding the assessment of its organisation's PSS potential.

EXPLORING YOUR ORGANISATION'S PSS POTENTIAL

The PSS potential within your organisation is determined by the ability of the organisation to support the desired PSS business strategy. By observing the differences between the PROTEUS companies it is clear that no two PSS strategies will look completely the same. It is however possible to describe some basic organisational capabilities, which are relevant to almost every PSS. These capabilities are important, as they influence the company's ability to meet and overcome the previously described challenges. Some of the challenges can therefore be used directly as guidelines of what to look for when exploring the PSS potential of an organisation.

Company culture

Personal insight in the daily work routines and relationships of the company is necessary, in order to explore the potential of changing the company culture and investigating the adaptability of the individual employee and the relevant departments. Obtaining such insight can be very different from company to company, so some systematic way of charting the company culture ought to be applied. The most important outcome is to identify potential game-stoppers and likewise identify potential future change-champions, who will steward the transition process.

Customer touch-points

Customer touch-points are important in the PSS organisation, in order to provide the needed level of service. By sketching out the existing customer touch-points for the company it will be possible to gain an overview of both the current channels to the customer – and perhaps more importantly, the missing ones. This knowledge can be used to determine how capable the organisation is to deliver integrated service. The task can at the same time be used as a brainstorming

Explore

Engage

Initiate

Analyse

Redesign

Launch

Maintain

exercise, to identify potential new customer touch-points. Mapping the customer touch-points can furthermore be used to assess the overall customer knowledge within the organisation.

Internal processes and capabilities

It is important to identify how well the internal processes are aligned and how easily the development of services can be implemented and aligned with the existing processes. Are management able to measure the performance of the internal processes today? Is the company familiar with defining and using metrics for this assessment? It is also important to assess the company's capabilities regarding both technical competencies (knowhow) and technical equipment (gear). It can be difficult to assess the capabilities before knowing the exact type of services desired to be provided, for which reason this assessment should continue into the next phases of the transformation.

Internal communication

In relation to PSS it is important to focus on the internal communication channels, which are vital for the PSS development and for the following service level of the company. A mapping of existing communication across the company is seen as a starting point of measuring the potential of the organisation. This mapping should reveal the type and quality of communication, both horizontally and vertically in the →

organisation – e.g. including communication between sales and development departments, between engineers and business developers, management and production, etc. The main goal of such a mapping is to determine the possibilities of moving back-office functions into front-office and thereby providing up-front expert service, directly to the customer.

FOCUS AREAS

Allocate resources

· Assign employee/team responsible for carrying out the organisational PSS exploration. As it can be difficult at this point to know which resources are the most suitable for the following stages, the team should be seen as a temporary group, only assigned for this stage. It is, however, recommended to let some of the

team members carry the work over after the explore phase, in the further transition process.

Align with business model development

· Align exploration process with early phase business model development The level of servitisation defined in the business model can be used to determine, which areas to focus on in the exploration. Likewise, the results of the exploration can provide new input for the business model development.

Assess adaptability

· Perform interviews or conduct individual conversations with relevant employees. Perform these actions in order to obtain knowledge about the adaptability of the individual

employee. Identify potential change champions to be integrated early in the process. Likewise, identify potential game-stoppers, in order to be prepared to deal with these during the transformation process.

· Conduct internal surveys among employees. The focus of such surveys is to collect information, helping enlighten the basic PSS potential related to the exploration.

Assess existing service capabilities

· Map existing customer touch-points Create a diagram of existing customer touch-points. The exercise can also be used to identify new touch-points.

· Map company departments/ employees already providing services to the customers. This diagram can

easily be combined with the diagram mentioned above, showing customer touchpoints.

· Identify existing service offerings. Use e.g. the PSS Configurator (see Workbook **4**) to see examples of offerings, to list the company's existing offerings and to experiment with new constellations of offerings.

· Assess your current technology. Assess the upgradeability of the existing technology within the company. Especially regarding the IT-systems.

CONSIDERATIONS WHEN MOVING TO FURTHER STAGES

- Do you have a sufficient overview of the readiness of your organisation to change?

- Is your business model development aligned with your organisation's PSS potential?

- Does your company have the management capabilities needed in order to conduct the organisational transformation needed?

ENGAGE

The *Engage* stage is where commitment from management is established and the decision to invest in a PSS strategy is made, in terms of both a new PSS business strategy and also a commitment to carry out necessary organisational changes. It is at this stage that the company decides on the level of servitisation they want to reach and how they are going to move the organisation to that level.

PSS STRATEGIES

Having explored the PSS potential of the organisation at stage one it is time to define a PSS strategy for the company. These PSS strategies were used to map the consortium's offerings in Figure 4 of Workbook ❶, and cover a continuum from product to customer focus.

Product

Within this area the product is in focus, as the company is highly manufacturing-minded. If any offerings are provided here they are made available in direct relation to the offering of the product, as e.g. identified in PROTEUS as "customised solutions" or "hardware products". Only a few manufacturing companies are situated solely within this area, as most provide offerings, which expand into the other groups. The area represents the lower extreme of the servitisation levels and can thereby be seen as a baseline for the following levels of servitisation.

Organisation-wise those companies that rely on a pure product strategy are regarded as holding a low PSS potential, as the new PSS organisation must be built from scratch. On the other hand this situation also gives the possibility of planning and developing a PSS strategy totally unaffected by existing, potentially unstructured and randomly developed PSS elements. This development will, however, still demand huge investments and allocation of resources.

Product use services

Most manufacturing companies today provide services based on this development strategy. Here the provided products are supported by a few individual service offerings, which are related to the use phase of the product. As the area is still very product-minded the offerings here can often be bought on same terms as the product, typically paid for per delivery, but are also seen offered as part of service agreements.

CUSTOMER ORIENTED				PRODUCT ORIENTED
BUSINESS SUPPORTING SERVICES	CUSTOMER ACTIVITY SERVICES	PRODUCT LIFE SERVICES	PRODUCT USE SERVICES	PRODUCT
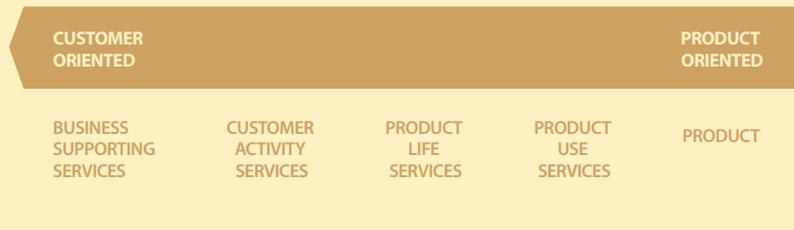
Organisation-wise the area of product use services is still very manufacturing- and product-oriented. Coming from the "product" development strategy and starting to provide offerings within "product use services" will demand the development of basic functions in the organisation. These are needed in order to support the few services the company may be offering at this point, which could entail employing technicians to maintain repair tasks or to set up a call-centre to, providing telephone support. In general it can be an advantage for the further PSS development at this point to set up new customer channels. This is suggested as increasing the level of servitisation by moving closer towards being more customer-oriented to demands, direct customer contact and customer knowledge.

Product life services

The offerings provided within this area focus on the whole life cycle of the product as e.g. "installation" and "take-back systems". This demands a deeper customer insight and any services are often offered as packages, which are paid for by the customer on a periodical or by-bundle basis. Products can still be paid per delivery next to the offerings.

Moving from providing "product use services" to product life services will affect the organisation, as the company is now entering a more PSS-minded business approach. The need for new internal communication channels becomes apparent and expected changes in the channels to the customers →

Figure 3. Continuum for PSS strategies.

→ must be expected. As the services here are provided in packages, it is possible to move into this level by implementing PSS on a smaller scale, e.g. by selecting a promising business unit and beginning to implement the PSS strategy here. This selection could be based on the results obtained in the Exploration stage. It is important to stress that such a new PSS-oriented business unit not must be isolated in the company. This is important, as the ability of providing integrated product/ service offerings often depends on knowledge placed in departments throughout the company.

Customer activity services

Focusing on "customer activity services" means that the company has moved into an area, where the competence gained from providing services renders the company capable of taking over areas, which traditionally have been the customer's responsibility. This could for example be remote operation of products or education/training of employees. At this point either the company or the customer takes ownership of the product. The products and services offered on this level are typically paid for on a periodic or per-bundle basis.

Making the move to provide "customer activity services" raises several demands to the organisation. At this point it is important that the company culture is changed from being purely manufacturing- and product-minded to also adopting a service mantra. In relation to this the company needs to build a common service language, in order to enable communication across the company. It is furthermore important that employees at every level of the organisation understand that "service" is the new sales object in the company (in addition to "product") and that there is a greatly enhanced value from the company, now offering integrated product/service-solutions instead of standalone products. A typical pitfall at this point is to continue to see service as something we give away, in order to sell more products. If this viewpoint is allowed to prevail in the company, PSS will never succeed and service will never achieve the level of attention or respect that it needs, if it should be an integrated part of a PSS solution.

Business supporting services

Being able to offer "business supporting services" the company has a fully implemented PSS strategy where

the responsibility of vital parts of the customer's business are handed over to the PSS company. This could e.g. be "financing" or "project management". The customer typically pays per result and the company as PSS provider assumes full responsibility and ownership of the product.

Entering the area of "business supporting services" the company is making the decision to move into the big league of PSS. The organisational structure must include the services described at the two previous areas and these must be fully embedded and accepted in every part of the organisation.

Note that it is by no means always the best or appropriate decision to aim for during business within this area for all companies. There is a considerable amount of risk-taking incurred, when offering business supporting services, which the company should enter into with open eyes. The advantage of risk-taking is that benefit-reaping can often be maximised, but the cost-benefit of such a move ought to be carefully considered, before embarking onto the higher PSS levels described here.

AIM AND COMMIT

The selection of which PSS strategy a company should aim for is dependent on the extent to which the management department is ready to commit to the desired strategy. The level of commitment is also dependent on the level of servitisation the company currently is offering. As mentioned there are no sharp distinctions $\rightarrow$

→ between the rings in the progressive product/service model, but there is a natural development-flow from product-orientation towards customer-orientation. As companies are very different it is, however, up to the individual company to decide which level of servitisation to aim for and which development strategies to focus on, in order to reach the desired level. As a preparation of making this decision it is advised to establish a taskforce including senior executives and individuals knowledgeable about the company processes. The weight of this taskforce's say in the company can be used as an indicator of the willingness to commit or a way of expanding the commitment and thereby increasing the level of ambition. The selection of strategy and level of commitment should also be based on the decision of how the strategy is thought to be implemented in the company. Being implemented in the entire organisation demands a higher level of commitment, compared to implementing PSS in a single business unit. On the other hand a larger scale implementation will be likely to entail commitment from a higher management level.

FOCUS AREAS

Allocate resources

- Establish taskforce including senior executives. This will potentially ensure embedding the PSS strategy at a relatively high management level.

Assess existing service capabilities

- Categorise the company's current service offerings using the five development strategies presented. This task can help determine at which servitisation level the company is currently situated.

Assess adaptability

- Determine the willingness to commit from top management. The level of commitment can be determined by reviewing the resources that are at the disposal of the project, involvement from top management, etc.

Assess existing service capabilities

- Determine which development strategy to focus on. Base the decision for the choice of development strategy on the current offerings.

- Integrate obtained knowledge regarding PSS potential, commitment and development strategy in the business model development (see

Workbook **7** for more information). Integrate these findings in the business model development, to ensure that the organisation's capabilities and the desired business strategy are in compliance with each other.

CONSIDERATIONS WHEN MOVING TO FURTHER STAGES

- Do you have a sufficient overview of the readiness of your organisation to change?

- Is your business model development aligned with your organisation's PSS potential?

- Does your company have the management capabilities needed, in order to conduct the organisational transformation needed?

$\rightarrow$

INITIATE

The *Initiate* stage is where the company starts to act, based on the strategy decided on in the second stage. Employees are notified about the coming changes and are included in the process. The organisational changes are being structured and responsible employees are organised for the execution of the organisational transition. An important part of this phase is to set up performance goals and KPIs for measuring the effect of the organisational transition.

ASSIGN THE RIGHT TEAM

As the employees of the company are being informed about the pending change towards greater service integration, the first real barriers can be expected to manifest themselves at this stage. As described in change management literature, people will begin to worry about what the change

will mean to them and in turn, adopt a defensive position. To prevent this from happening and to deal with possible personal resistance, it is recommended that the work of the taskforce conducted in the second stage is passed on to an assigned project team, which will take charge of the process from now onwards. As it is the task of the project team to identify and develop the possible service level of the company, is it important that the team comprises employees from different levels and areas of expertise within the company, so as to ensure maximum insight from all aspects of the organisation.

DEFINE PERFORMANCE GOALS AND INDICATORS

The overall goals of the company's PSS strategy must be defined during

the business model development and to assess these, it is the task of the project team to define key basic requirements for the PSS organisation. The basic requirements must be used as navigation points to aim for, when building the PSS organisation and must therefore represent to the customers, the most valuable aspects of the service agreement. Internally the basic requirements for the PSS organisation should be used to ensure the key areas to develop in the servitisation process and base the new PSS organisation (and its connected business model) on.

Three examples of identified basic requirements for the PSS organisation are provided in the following:

Response time

As downtime is expensive for a ship

Explore

Engage

Initiate

Analyse

Redesign

Launch

Maintain

in service, the customer expects fast response times as a matter of course, when entering into a service agreement. It is therefore important to set a basic requirement for response time to all service activities towards the customer, based on their needs.

Maintenance inspection

An integrated product/service agreement often includes planned maintenance of the provided product. A basic requirement related to this will be the number of maintenance visits necessary to keep the component and/or equipment in compliance with the owner's schedules and also with possible certification authorities (as is the case in the maritime branch).

Design for maintenance

The minimisation of the time for a repair task is a basic requirement, which can be used to improve the business case of the PSS company and describe a competitive edge. In the development of integrated product/services all life phases of the products must be considered in the business case. An example has been observed in the maritime industry, where the reduction of a component's production cost entailed an increase in installation and repair time, due to a change in its design that was detrimental to its installation and maintenance. The company had set up a basic requirement for the time →

→ of their repair tasks and was thereby able to identify this undesirable effect early enough to be able to alter the design accordingly.

In addition to the above mentioned basic requirements for the PSS organisation (which have their place in a business specification) the organisation should choose a set of KPIs for their PSS business. The KPIs will relate to the particular chosen value proposition for the company. Examples of such KPI's can be found in Workbook ❸.

FOCUS AREAS

Involve employees

· Communicate the transformation plans to employees. Communicate strategy, in order to involve employees in the process.

Allocate resources

· Transform taskforce into project team, including more employees. The previously assigned taskforce can at this stage be expanded into a project team, including key employees, so as to ensure a successful transition process.

Assess existing service capabilities

· List strategy goals related to the organisational performance. Identify overall strategy goals in the business model to use for development of organisational key performance indicators.

· Define key performance indicators. Define organisational key performance indicators matching the overall business strategy.

CONSIDERATIONS WHEN MOVING TO FURTHER STAGES

- Are you able to assign the necessary employees to the project team, which together have a broad overview of the organisation?

- Have you been able to proactively reassure concerned employees and thereby avoid potential game-stoppers?

- Have you defined relevant KPIs supporting your business model?

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ANALYSE

The *Analyse* stage is an important but often overlooked stage. In this stage the existing processes are documented and studied, in order to identify possible root causes for problems and non-value adding activities. By conducting a diagnosis of the existing processes across the organisation, potential barriers and problems can be avoided in the further transformation process.

DOCUMENT EXISTING PRACTICES

The activities within the analyse stage are not exclusively related to PSS as the task of documenting and analysing existing practices is important in most change management processes. In the case of PSS, the documentation should be used as a basis for developing new practices and for providing integrated products and services. It should therefore cover attributes of the organisation, which are relevant

for this development. The knowledge obtained at the Explore stage can easily be included in the documentation process as this knowledge of existing processes and communication channels constitutes an important part of the complete documentation. In the following some common attributes are presented, together with advice of how to document them properly. As no two companies look the same, it is advised to research for additional organisational mapping tools, so as to identify find the ones that best describe the specific company organisation.

Existing processes

The existing internal processes can be assessed using flow charts or similar process mapping tools. The result of this exercise can be used to identify if new organisational processes are needed,

when developing new integrated products and services. An example of this could be the development of new processes, enabling the alignment of the product and service development.

Resources

The documentation of resources should be used to design a new human resource strategy. This area can be assessed in different ways. One way could be to organise the current competencies within the company in different categories and document the relevant employees for each competence. Thereby an overview of the available current competencies is created, which also shows how strongly each area is covered. Another important aspect is to map the existing channels of attracting new employees to the company. Is the company in a position,

Analyse

where skilled employees are easily attracted?

Communication channels

The communication channels of the organisation can be mapped by creating a diagram with chords between the different departments. One may consider marking the type and importance of the individual channels to get a more detailed overview. An additional chart can be made by mapping the communication channels between the individual employees. This will give an overview of key figures in the organisation.

Roles

To assess the roles in the company a role activity diagram can be applied. The mapping of roles gives the overview of the existing division of responsibility in the organisation. This knowledge can be used in the redesign process to decide where to build new clever relationships across the organisation in order to support the PSS strategy.

Cost

The financial aspect of the organisational transformation is an important factor in the business model development. To build a strong PSS business case it is necessary to know the cost and revenue of the different functions and departments within the company. Thereby it is possible to quickly $\rightarrow$

→ to get an overview of the economic consequences of new organisational layouts being developed at the redesign stage.

ANALYSING THE DATA

The initial analysis of the obtained organisational data can be used to show current bottlenecks or weaknesses in the organisation. The real force of analysing the obtained data is, however, seen later on in the organisational development process. The analysis can therefore be seen as an on-going task, which will become more and more specific, when conducted along with the advancement of the business development. When new product/service offerings are being defined it becomes easier through analysis to match the current organisational practices with the ones

needed in the new organisation.

FOCUS AREAS

Collect existing documentation

· Identify documentation already available in the company. This could include the data collected during the Explore stage.

Assess existing service capabilities

· Select internal practices to document. The selection must be based on the attributes relevant for the specific company, e.g. attributes such as processes, resources or communication channels.

· Search for tools that match the selected practices. The required tools can vary across companies. Look e.g. into tools presented in classic management theory and carefully

consider the outcome of each tool, before choosing the ones to use.

· Initiate documentation activities. Carry out the documentation in the relevant departments of the company.

Analyse

· Analyse of the collected data and plan how to use these in the further stages. Sort out irrelevant results and collect the ones that seem relevant for the further transformation process.

Align with business model development

· Use the collected information in the business model development. New information will possibly show up as a result of this activity. Make

sure to use this information in the business model development.

Embed practice

· Embed the documentation practices throughout the organisation. The purpose of this activity is to implement the documentation practice as an integrated part of the company culture.

CONSIDERATIONS WHEN MOVING TO FURTHER STAGES

- Are you able to identify the relevant attributes to document within your organisation?

- Do you have access to the competencies needed in order to analyse the obtain data within your organisation?

- Do you have the resources needed in order embed the documentation practice as an on-going activity during the following PSS development?

$\rightarrow$

REDESIGN

At the *Redesign* stage new internal processes are developed, in order to match the strategic objectives. This task includes development and evaluation of alternative solutions and the selection of the ones that best meet the desired PSS strategy. Related areas such as IT-infrastructure and human resource strategy are typically also subject to change within the redesign stage.

DESIGNING NEW PROCESSES

The development of new processes can be divided into two interrelated areas: Development of processes enabling PSS strategy and Development of processes enabling product service offerings. In the following these two development areas are explained:

Development of processes enabling PSS strategy

Depending on the selected PSS strategy relevant processes must be developed. As previously described, new internal communication channels and external customer touch-points are needed to be established in the PSS company. In order to develop these areas, development of the necessary underlying processes is needed, so as to gain full advantage of the new organisational layout. These processes can be related to many areas of the company, such as e.g. the processes of how to address customers, negotiating contracts or constructing service deals.

Development of processes enabling product service offerings

This task should go hand-in-hand with the development of new offerings, as part of the business model development. The development of offerings will thereby not only be based on what seems to be a good business case, but also on what is realistic to offer, based on the current and future capabilities of the organisation. To ensure that the organisation is not perceived as a barrier for developing new offerings, the organisational capabilities should actively be used thorough creative processes. An example of this could be to bring together employees from different departments, such as e.g. marketing and R&D in creative workshops on a regular basis. Going through such a development process will potentially enable new offerings that would not have been thought of otherwise. The creative process of developing new offerings should vice versa also enable new ways of rethinking new organisational processes.

Redesign

The creative process can be carried out using tools as described in Workbook **4**. Especially the Service Blueprint and the PSS Configurator will be of help, when looking for inspiration to develop new offerings and the appurtenant process development.

Infrastructure and human resources

Besides the processes covering the two areas described previously, the PSS company also often demands development of processes supporting a new infrastructure and human resource strategy. The development of a new infrastructure is in most cases related to the investment and implementation of new IT systems. In PROTEUS it has been observed that implementing a PSS strategy often entails investment or even development of new IT systems. The systems are upgraded or developed with two main purposes in mind: i) they are used as an internal tool for managing the products and services; or ii) the systems are being designed as specific offerings provided to the customers. In both cases the underlying processes in the organisation must change, in order to adapt and take full advantage of the new systems.

The area of human resources should be considered to secure long term access to employees with the competencies needed in the PSS company. Many companies may not see this as an area that is necessary to change for PSS, as such. →

→ It is however necessary to assess if the new PSS solution demands different kinds of employees, e.g. different educational background or more specialised than usually employed in the company. If this is the case, new processes of how to get accesses to these employees may be needed.

FOCUS AREAS

Develop new processes

- Identify internal processes that are missing, in order to enable a PSS strategy and new product service offerings. The data conducted during the Explore stage and the result of the analysis conducted should help identify weak spots in the organisation.

- Develop internal processes enabling a PSS strategy. These processes can be related to many areas of the company, as e.g. the processes of how to address customers, negotiating contracts or constructing service deals.

- Develop internal processes enabling new product/service offerings This development process is minded on developing underlying support structures for new service offerings. Vice versa the activity can be used to come up with new offerings, based on the existing processes within the organisation.

- Initiate documentation activities. Carry out the documentation in the relevant departments of the company.

Upgrade infrastructure

- Identify gaps in existing infrastructure. In the context of PSS this area is often related to the IT infrastructure, as the PSS often calls for more advanced IT solutions.

- Upgrade infrastructure. Define a stepwise plan for how to upgrade the infrastructure to the level needed for supporting the desired level of servitisation..

Develop human resource strategy

- Identify competencies needed to support the desired business model. Identify whether new competencies are needed, in order to reach the desired level of servitisation.

- Define a proactive human resource strategy. This activity can help ensuring continuous access to the required competencies.

CONSIDERATIONS WHEN MOVING TO FURTHER STAGES

- Are you equipped to develop new internal processes supporting the desired business model, if needed?

- Does your IT infrastructure support the desired business model or do you have an overview of the functions needed to be upgraded?

- Do you have an overview of the competencies needed in your new organisation and have you considered a proactive human resource strategy for supporting this area?

LAUNCH

In the *Launch* stage the organisational PSS transformation is carried out in the company. This stage relies heavily on change management techniques, which must be applied to ensure a successful transition of employees' roles, and a likely necessary reorganisation of the employees. Roles and responsibilities are assigned, together with the definition and allocation of new human resource roles. It is also at this stage of the transition process that new technology is typically implemented and training of the employees is executed.

MANAGING CHANGE

The task of implementing organisational changes is not new but still it calls for complex and time-consuming management manoeuvres. The task demands

the project team to demonstrate determined leadership by living up to their responsibility of guiding the organisation safely through the transformation. It is seen in change management literature that change often entails a drop in the overall performance, until the organisation has established business-as-usual again. The change curve seen in, Figure 4 represents a simplified model of the expected performance vs. time during the change process. As seen on the curve it predicts a minimum point of performance. It is the task of the project team to manage the change process and thereby minimise the magnitude of the performance drop and at the same time overcome the transformation, as quickly as possible.

As leader it is possible to take specific actions to minimise the disruptions

brought on by change. In the beginning of this book we presented the PSS change challenges related to the organisational level. The challenges related to the employee level can be described by classic change management theory. As these challenges occur on a personal level, they will vary across companies and must be dealt with as they occur. It is difficult to predict these exact challenges, but some basic actions can be carried out from the leaders of the transformation in order to secure a smoother process. Based on the knowledge obtained through PROTEUS these actions can be described by the actions, described in the following::

Set a course

In order to show leadership the project team must be able to translate and

Stages	Explore - Redesign	Launch		Maintain
Strategic Focus	Set a course	Communicate realistic expectations	Establish stepping stones	Encourage followers to move forward
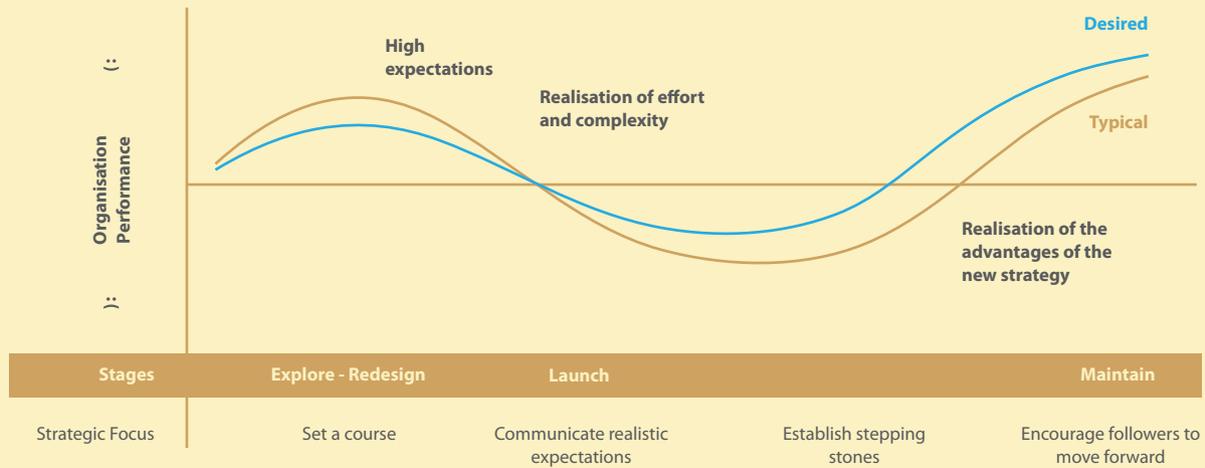
Figure 4: Organisational change curve in relation to the stages and strategic focus.

communicate the vision of the business strategy into a clear course for the employees to follow. It is important that every affected employee understands the future benefits of the transformation. Related to PSS this is particular important as the success of the PSS strategy in the organisation is relying on the individual employees understanding and acceptance of the strategy.

Communicate realistic expectations

Another task to be carried out by the managers is to communicate realistic expectations to the employees impacted by the changes. Disruptions may occur if employees' expectations to the process clashes with reality. It is important to communicate from the beginning that the PSS transformation possibly will change the involved employees work routines significantly.

Establish stepping stones

Setting up stepping stones for the employees will lead to a smoother transformation process. During the PSS transformation the initial developed service offerings can, for example, be used as stepping stones to enable future offerings. This is also the underlying idea of the PSS Configurator tool, described in Workbook ❹. →

→ **Encourage followers to move forward**

The leaders must encourage the employees to continue to take individual steps day-by-day, in order to make the process move forward. This task can easily be combined with the stepping stones by setting up bonuses or other kinds of rewards, when passing important transformation milestones. These milestones can e.g. be determined through metrics as previously described.

FOCUS AREAS

Align with business model development

· Assess the company's sensitivity to performance drops. This could be sensitivity related to e.g. finance, competitiveness, development, etc.

· Consider possible performance drop in the business model development. Set up a realistic estimate in the business model for when the organisation is running at maximum performance again.

· Adjust the business model if necessary. Decide whether the PSS strategy must be changed or postponed, in order to decrease the expected performance drop.

· Initiate documentation activities. Carry out the documentation in the relevant departments of the company.

Set the course

· Clearly communicate the new PSS strategy. Make sure the overall PSS strategy has been understood and accepted at all levels of the organisation.

Smoothen the transition

· Communicate expectations. The employees need to be well informed, so that the consequences of the change process are not taking them by surprise.

· Establish stepping stones. Initially developed service offerings can, for example, be used as stepping stones to enable future offerings.

· Define bonuses, which will be released to the employees, when passing important transformation milestones, defined through KPIs.

Initiate employee level activities

· Initiate training of employees Initiate training of employees, where needed. This should concern all levels of the organisation.

- Implement new technology at a realistic rate. Forcing new technology down on people can entail unnecessary resistance against the process.

CONSIDERATIONS WHEN MOVING TO FURTHER STAGES

- Is your organisation prepared to comply with a possible drop in performance during the transformation process?

- Do you have an overall strategy for successfully achieving to get all employees to embark on the new PSS strategy?

- Do the overall goals in your PSS business model allow you to define achievable stepping stones, in order for your employees to reach the overall goals?

MAINTAIN

The *Maintain* stage is an on-going stage, which is initiated at the end of the transformation process. The stage ensures an on-going assessment of the performance of the new organisation in relation to the desired PSS strategy, which includes reporting systems and metrics, necessary to keep the organisation on track. At the same time the organisation is kept agile and ready for further adjustments, if necessary.

MAINTAINING THE PSS ORGANISATION

The transformation process is not completed over-night and a continuous effort is needed, in order to further develop and refine the PSS organisation. The organisational focus should go hand-in-hand with the overall assessment of how the PSS business strategy is working and received by the customers. The organisation must remain agile and be able to transform further, if indications of ineffective or non-value adding activities arise. Some of the activities initiated during the previous six stages can be used directly as means of maintaining the PSS organisation. These activities include:

Continue the organisational PSS development

The organisational development must not stop after the launch stage. To keep focus it is recommended to keep the project team or to assign a steering group, which will be focusing on the continuous development of the organisation. This work is particularly important related to the development of new offerings, which may call for further changes in the organisation.

Continue training and education of employees

To continuously develop new service offerings, the employees' knowledge must be updated on a regular basis. This can be done by offering external courses or by setting up internal training programmes.

Use metrics actively

Metrics can be used as an encouragement to improve the PSS performance. This could for example be achieved by setting up bonuses to the employees, if fulfilling the defined metrics. This practice has been identified in one of the PROTEUS case companies.

Explore

Engage

Initiate

Analyse

Redesign

Launch

Maintain

FOCUS AREAS

Keep focus

· Assign a steering group. It is recommended to keep the project team or to assign a steering group, which will focus on the continuous development of the PSS organisation.

· Continuously use metrics actively. Use and develop metrics as an encouragement to continuously measure and improve the organisation's PSS performance.

Continue training and education

· Offer external courses. New knowledge can be brought into the company by offering external courses to the employees.

· Set up internal training programmes. Internal knowledge can be shared throughout the organisation by setting up internal training programmes.

Align with business model development

· Keep alignment with business model development. The on-going organisational development should be kept aligned with the continuous business model development.

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SUMMARY

The ability to change and adapt to new market conditions is crucial for sustaining a competitive company. In this book, the organisational implications involved in moving from a product organisation to a customer centric PSS organisation have been treated in depth. This should not be misconstrued as PSS strategies requiring above-average efforts to implement. Rather, any significant change in strategic direction is likely to result in equally significant changes to the organisation. Having read this book, it should be clear that the process of change requires a determined and structured effort spanning the whole organisation and its employees.

To mitigate the hardships met in changing toward a PSS strategy, the workbook has provided a number of dimensions that can be used for understanding how the current and future organisations will differ. To bridge the gap between the current organisation and the desired one, a seven phase change process has been described. Each phase (from explore through initiate to maintain) has been tailored to the specific attributes of a PSS strategy.

The proposed dimensions for understanding the the organisation as well as the seven-phase framework for change are to be seen as general representations. These should be adapted to every case. In your own company, certain dimensions are likely to be obsolete or unproblematic and the process of change might iterate back and forth between the different change phases. Despite these differences, the book should provide a solid basis for navigating the process while at the same time reducing the problems that are likely to occur along the way.

Moving toward a PSS strategy also means moving toward a less static organisation, which is able to constantly adapt to new market conditions and customer needs. This means that in the PSS organisation, change management is a central competence and the tools and understandings provided by this workbook will be relevant long after the original PSS strategy has been realised.

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In this fifth workbook in the PROTEUS series the organisational challenges related to the transformation from being a manufacturing based company into an integrated product/service-oriented company are described and addressed. The main section of the book presents a seven stages structured approach on how to define and implement a PSS organisational strategy.

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