

## **Unveiling the power of selling spare-parts as a happy-meal**

- A study of how spare-part-kits can improve supplier attractiveness

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**ABSTRACT**

- Title: Unveiling the power of selling spare-parts as a happy-meal - A study of how spare-part-kits can improve supplier attractiveness
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- Background: Companies selling industrial machines are seeing a shift where profits are moving from new sales, towards retrieving revenue throughout the whole customer life cycle. Instead of selling new machines, the companies in the industry need to look towards what is referred to as “the aftermarket”. The aftermarket is the part of the market where spare-parts and maintenance services are sold to existing customers. This part of the market is growing rapidly, and the competition on capturing market shares of the after-market have been increasing.
- Problem description: Manufacturers of industrial machines need to capture market shares from the aftermarket, which currently is under the pressure of increased competition. Today, spare-parts can be sold either separately, or in combination with maintenance services. However, the first alternative is tedious for the customers, and the other alternative is not applicable for all customer segments. A third alternative, namely putting spare-parts together in bundles or

	“spare-part-kits” is also possible, but its potential has not been investigated until today.
Purpose:	Investigate how a company can become a more attractive supplier of spare-parts by offering the parts in spare-part-kits.
Research questions:	<ol style="list-style-type: none"><li>1. Who are the stakeholders involved in the purchase of spare-parts?</li><li>2. Why is the concept of spare-part-kits relevant to suppliers of spare-parts?</li><li>3. What should be considered when implementing spare-part-kits?</li></ol>
Methodology:	This thesis uses a holistic perspective to the problem, aiming to investigate how spare-part-kits would affect the organization as a whole. This is done by investigating the different parts of the organization relevant for the study by adopting a systems view to the problem, outlining the work by taking support in the Business Model Canvas.
Conclusion:	Spare-part-kits have the potential of increasing customer satisfaction and therefore also the potential of increasing sales of spare-parts. Spare-part-kits can reduce the time spent on ordering, handling and administrating spare-parts, improving communication internally between the stakeholders within the customer company. From a supplier’s point of view could spare-part-kits increase the customers trust towards the supplier and provide the customer with the ability to evaluate the process of ordering spare-parts.
Keywords:	Spare-parts, Bundling, Spare-part-kits, Service-kits, Servification, Customer satisfaction, Aftermarket, Lean consumption

Unveiling the power of selling spare-parts as a happy-meal

## **PREFACE**

This thesis marks as the end point of our five years of studies at Lund University. Because of this, we want to thank all the people that have made it possible for us reach this level and experience all what we have experienced. Furthermore we want to give a special thank you to the supervisors that have made it possible as well as Tetra Pak Processing Systems and Andreas Lundquist for taking us in. We thank Andreas Ryding for an excellent support throughout our half-year of work, where he have always been understanding and given us what we have needed to carry out our work, as well as proper guidance. Furthermore we thank Carl-Henric Nilsson for his exceptional guidance in helping us to understand the core purpose with our work and finding relevant questions to fulfill our purpose. Last but not least we thank Eva Berg for her excellent eye and feedback that have helped us make the thesis both comprehensive and exhaustive.

Finally, thanks to you, the reader. If you are reading this line after the others, you at least read one page of our thesis. Thank You!

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**ABBREVIATIONS**

- BU1 – Business Unit 1, a business unit within Tetra Pak Processing Systems
- BU2 – Business Unit 2, a business unit within Tetra Pak Processing Systems
- KPI – Key Performance Indicator
- PM – Production Manager
- R&D – Research & Development
- SKU – Stock-Keeping Unit
- TM – Technical Manager
- TPPS – Tetra Pak Processing Systems
- TS&S – Technical Sales & Service, a department within Tetra Pak Processing Systems

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## 1 INTRODUCTION

### 1.1 BACKGROUND

Companies that want to survive in the long run need to find a way to deliver products or services at a level similar or above their competition. If they do not, they will not generate profits and in the end they will go bankrupt and disappear. This implies that companies need to be on their feet in order to be able to adapt to changes in their competitive landscape. Some companies may believe that they are safe, due to that they recently went through a period of change, or due to that “our industry will never change”. However, this thought of a status quo is something illusive. It is non-existent, and its only purpose is to comfort the mind from the excessive amounts of complexity in our world. Everything is changing, continuously.

The pace of change has intensified over time, with technological growth being a catalyst for what we expect from evolution of everything around us. Moore’s law states that the number of transistors on a microchip will multiply every second year, being the definition of exponential growth (Intel Corporation, 2015). This rule may not only apply to the world of technology, but may also be seen in the factual world around us. What we see is increased globalization, a higher degree of uncertainty, increased product complexity and increased customer demands for a lower cost (ELA, 2014). This puts higher pressure on companies to satisfy and coordinate their efforts in satisfying their customers. Supply chains and products are becoming more complex, but companies still need to unclutter the noise and keep focus on satisfying their customers.

Companies need a tool to keep focus on their customer needs; such a tool is Lean consumption. Lean Consumption is a theoretical field, which emerged no later than 10 years ago, which build on six pillar stones that can be used to understand how a company can simplify the interface between themselves and their customer. The

basic principle is that the customer shouldn't need to put any unnecessary effort into buying and using a product or service. Companies are encouraged to simplify everything for the customer, not having them to do anything that the company can do themselves.

Other than struggling with demanding customers, some firms also need to review the way that they generate their profits. Companies selling industrial machines are seeing a shift where profits no longer can be collected from new sales, but from existing customers. Instead of selling new machines, the companies in the industry need to look towards what is referred to as "the aftermarket". The aftermarket is the part of the market where spare-parts and maintenance services are sold to existing customers. This part of the market is growing rapidly, and for some firms generates over 50 per cent of operational profits (Beauvilliard, et al. 2009).

There can be reasons behind the shift towards the aftermarket, as with the shift towards a more customer-focused environment. One of the reasons can be that the competition for selling industrial machines have intensified and therefore watered out the margins, making companies forced to look into other sources of profits. By also having customers who themselves are facing an increased competition and reduced margins, suppliers of machines need to find a new of doing business. One result could be that the supplier and buyer of a machine need to cooperate in a higher degree, giving space for a relationship where the supplier helps the customer to maximize their potential. This put higher demands of how machines are taken care of, and the dynamics between seller and buyer, thus increasing the need, and the size of the after-market.

## **1.2 PROBLEMATIZATION**

Based on the reasoning above, companies who are producing industrial machines are facing a shift towards the aftermarket. Increased profits in the aftermarket, have also lead to that the competition for selling maintenance and spare-parts also have

intensified. To generate profits and survive, those companies need to find a way to compete in a market, which may not be their original habitat. They have been used to produce and sell machines of high quality, making spare-parts and maintenance only a parenthesis, of secondary importance to their business. Today, they are facing competitors that may not even produce machines, but focus on supplying after-market products and services.

To tackle this challenge, some firms are working with “service-agreements”, a way of putting together spare-parts with maintenance services. In this way, customers are able to pay the supplier a fixed sum, from which they receive all the spare-parts and services needed to continue their production. This is useful for a customer who does not want to put any effort into maintaining their production. However, service-agreements are not applicable for every type of customer. Some customers have set up routines and processes for buying spare-parts, where service-agreements would result in a substantial change in their way of working with maintenance. Potentially, it could result in employees losing their jobs, as the customers would let the supplier handle everything needed around maintenance. A complete adoption of service-agreements therefore becomes unlikely in those scenarios where the employees, responsible for the maintenance would risk marginalizing the need for their own function. Furthermore, some companies might be interested in keeping the knowledge about their maintenance inside the organization. This gives an ability to continue aggregating this knowledge inside the organization for the sake of future usage, and not outsourcing it to a second or third party.

Firms that own a machine that require maintenance have two choices today. Either they buy spare-parts and services separately, or they rely on their supplier with the whole solution and are assured that the machines are maintained accordingly. But what if the customers would have a third alternative, to keep their organization intact as it is, and at the same time get the suppliers knowledge of the machines when buying their spare-parts? What if

they could have the freedom to act on their own preference, but simplifying everything around the purchase that does not add any particular value to their business? The current theoretical base in the field of lean consumption does not provide guidance of how the above-mentioned questions can be answered. This is the theoretical purpose that the thesis aims to fill, to show how a company can simplify their offering of spare-parts and strengthen the relationship with their customers.

The thesis is carried out in a case-company, which is currently searching for a way to improve their way of offering spare-parts to their customers. The company is screening a number of initiatives inside the organization, which all aim to increase the sales of spare-parts. The common denominator between all initiatives is what the company call “Service-kits” but the authors regard “spare-part-kits” to be a more precise term why this will be used further on. The concept of spare-part-kits is a way of combining spare-parts into “bundles”, or packages. A bundle is a combination of products, like the one found in the kids menu at McDonalds, the Happy Meal. Why should a customer need to order each product separately, when they can be combined into one bundle, or one meal?

### **1.3 PURPOSE**

The question whether spare-part-kits can result in increased sales of spare-parts is unclear and gives the purpose of the thesis:

“INVESTIGATE HOW A COMPANY CAN BECOME A MORE  
ATTRACTIVE SUPPLIER OF SPARE-PARTS BY OFFERING  
THE PARTS IN SPARE-PART-KITS.”

### **1.4 RESEARCH QUESTIONS**

To fulfil this purpose, the authors have decided to formulate three research questions, which will be answered in the concluding chapter of the thesis. The answers to the questions will provide the reader with the necessary knowledge to understand how the



purpose have been fulfilled, the direction for future studies on the subject, as well as future guidance for the case company.

1. Who are the stakeholders involved in the purchase of spare-parts?

By understanding what stakeholders that are involved in the decision of which supplier to use for purchasing spare-parts, the reader will gain a better understanding of the preferences of each of their customers.

2. Why is the concept of spare-part-kits relevant to suppliers of spare-parts?

Different stakeholders have different expectations and preferences regarding what make them to choose a certain supplier. Some are generally applicable, and some are more specific depending on who the stakeholder is. By understanding the answer of this question, the reader can understand in what way spare-part-kits can affect the stakeholders in their decisions.

3. What should be considered when implementing spare-part-kits?

After understanding whom the stakeholders are and what they value, the reader will get insights into how a company should act on this information. To succeed with implementing spare-part-kits into an organization, a number of activities and resources need to be in place and the information derived from the case company will be presented in the review of this question.

## **1.5 FOCUS AND DELIMITATIONS**

### **1.5.1 Focus**

The thesis aims to function as a pre-study and give an indication of how spare-part-kits can increase customer satisfaction and ultimately sales of spare-parts and company profits. However, a company interested in implementing spare-part-kits should only use this thesis to get a high-level understanding of the usability of

spare-part-kits, and complement this result with knowledge about their own customer segments and organizational predispositions.

The scope within the case company is represented in Figure 1, which show the parts included in the study. The model is more thoroughly explained in the methodological approach, with support in Appendix 1.

As previously mentioned, the thesis will investigate how customer satisfaction can be increased, which should be done by investigating the consumption side of the business model canvas. In this, customers are segmented and their needs are mapped. Furthermore, the mediating part investigate which channels are used to sell the products, as well as highlighting the nature of the relationship between the supplier and the customer, complements the purpose of the thesis. In order to see how spare-part-kits should be implemented in the organization is the view complemented with the proposition and creation parts of the framework, which can be broken down into what activities and resources the case company will need to develop the spare-part-kits.

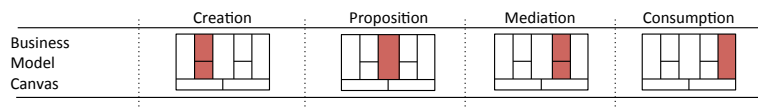


Figure 1: Blocks from Business Model Canvas, as adopted by the authors from Osterwalder & Pigneur (2010), forming the scope of the thesis.

### 1.5.2 Delimitations

Looking at the business model canvas, the parts that are not included are Cost structure, Partnerships and Revenue Flows. The delimitations have been done due to time-constraints of the report. Furthermore, some more specific delimitation has been done, which will be highlighted below. Even if the areas are briefly touched upon in the report, the authors see the respective

investigation-depth to be too shallow needing extra efforts to complement the thesis' findings.

*Logistical factors*

Today the spare-parts are sold one by one, and most often packed and delivered in the same way. For the spare-part-kits to be implemented, there need to be set up a logistical function, which manage the physical spare-parts and pack them in adequate spare-part-kits. This has not been taken into consideration in this thesis due to that the purpose reviews the question on a level connected to customer satisfaction rather than internal efficiency and routines.

*Administration*

The large number of machines, spare-parts and maintenance events for each machine will require TPPS to investigate which spare-parts that should be put together. This is a detailed objective that the authors recommend to be carried out by the person responsible for each respective machine with the needed knowledge.

*Pricing*

Depending on the value that the customer gets from a kit, a decision how the spare-part-kit should be priced. The pricing question is highly complex and needs to be taken regarding the norms of specific customer segments, as well as a value mapping of their perceived use of a spare-part-kit. This is briefly touched upon but not with a sufficient level of detail to give a detailed implementable solution.

*Maintenance recommendations*

Every machine has its own maintenance recommendations. This incorporates which parts that have to be replaced during each specific interval. The authors have not been able to give recommendations of how spare-part-kits should be put together on this level of detail due to time constraints and due to that the thesis investigate the question from a strategic rather than an operative level.

## **1.6 TARGET GROUP**

The thesis has three targets group, where the case company is one obvious group with interest in the results. Furthermore similar companies in a comparable situation can have interest in the result of the thesis. Last but not least, scholars with interest in deepening their knowledge in the relationship-dynamics between a customer and a supplier of spare-parts to machines or other heavy industrial equipment.

## **1.7 OUTLINE OF THE THESIS**

The thesis is divided into seven parts outlined below. Each part functions in guiding the reader to the fulfilment of the purpose of the thesis.

### **1.7.1 Methodological approach**

The purpose of this chapter is to provide the reader with insights about the process that have made it possible to arrive to the conclusions of the thesis. By taking conscious decisions about the methodological approach, the authors have been more aware of the possible shortcomings in the deliverable towards the Academia as well as TPPS.

### **1.7.2 Theory**

This chapter give the reader the necessary understanding of the previous knowledge that the authors have used to analyse the problem at hand. The theoretical framework is divided into three sections, which follow the same logic formulated in the three research questions. The first section gives the reader an understanding of the different parts of the customers' organization. The second part will provide a basis for how spare-part-kits are relevant for an organization selling spare-parts. The third section provides the basis for the current methods to improve sales of maintenance in general and spare-parts in particular.

### **1.7.3 Empirical data**

In the empirical section the findings from interviews and written material is presented. The material has been collected from internal

functions at TPPS and case studies from both within and outside TPPS's own organisation.

#### 1.7.4 Analysis

After having gone through relevant theory, examples of businesses that have tried the concept of spare-part-kits as well as internal functions' view on the matter, it is now time to bring the pieces together. In order to fulfill the purpose of the thesis, of investigating how spare-part-kit can affect customer satisfaction, the analysis starts out with the customer followed by a drill down into its relationship with spare-part-kits. Finally a review is made on what aspects that should be considered when implementing the concept. On a basis of this the analysis presented below will therefore aim at investigating the following questions:

#### 1.7.5 Conclusions

In this chapter the reader can find the answers to the three formulated research questions, which finally fulfils the purpose of the thesis.

#### 1.7.6 Discussion

In this section the authors provide their reflections on the presented result, its possible implications, how the case company should proceed with the implementation of spare-part-kits, as well as suggestions for future research for scholars.

#### 1.7.7 Future steps

Ending the thesis is a section regarding what the authors regards as valuable future research for both the chosen case company as well as for scholars.

## 1.8 PRACTICAL BACKGROUND

### 1.8.1 The Case Company

The case company is Tetra Pak Processing Systems (TPPS) a division of Tetra Pak. TPPS design and manufacture equipment used for liquid food production and supply the aftermarket with maintenance and spare-parts. TPPS divides the market into five

different food categories (dairy, juice & nectars, prepared food, ice cream and finally cheese & powder) as well as a cosmetic category. The products are often customized to each customer, which result in each machine having common parts, but also some sets of parts being customized for each machine. (Ryding, 2015)

#### 1.8.2 Current initiatives with spare-part-kits

TPPS have noticed several initiatives within the organization where business units have made efforts to improve their current spare-part offering. At the moment most of the customers of TPPS are buying their spare-parts one by one from TPPS, a process carried out either over an IT-platform or by a personal contact at the company. (ibid)

The taken initiatives have been combining spare-parts into spare-part-kits, but these initiatives have only been done on dispersed functions in the organization, and now becoming a subject of this study, to see if it should be promoted throughout the organization through a centralized recommendation. (ibid)

## **2 METHODOLOGICAL APPROACH**

### **2.1 INTRODUCTION**

The purpose of this chapter is to provide the reader with insights about the process that have made it possible to arrive to the conclusions of the thesis. By taking conscious decisions about the methodological approach, the authors have been more aware of the possible shortcomings in the deliverable towards the Academia as well as TPPS. The thesis has been carried out as a case study, which have given the authors the opportunity to get deep insights on the study object, but which also limits the generalizability of the results, which will be discussed more thoroughly in this chapter.

### **2.2 SYSTEMS VIEW**

Since the study investigates a phenomena apparent at different levels of the organization, the authors have not chosen do study specific parts of the organization in detail. Instead the authors have focused to get an understanding of how the organization would be affected by spare-part-kits as a whole. Due to the nature of the problem to be studied, a non-holistic approach would risk to compromise the thesis' validity since it might incur a sub-optimized conclusion. By using the systems view the authors have gained knowledge from a large variety of functions in the organization, which is in line with the purpose of the organization, which is formulated in a more explorative manner. To find how a company can become a more attractive supplier of spare-parts, a larger part of the organization need to be investigated, which the systems view is well suited for.

The systems view is the methodical framework that has been used globally in the thesis. The way of looking at a problem from a systems view can be broken down into three parts, which will be explained below: (1) Systems Theory, (2) Structuralism and (3) Holism (Arbnor & Bjerke, 2009).

### 2.2.1 Systems Theory

To define systems theory one has to begin with the two ideas that make up the theory. Arbnor and Bjerke (2009, p. 130) define these two as follows:

“FIRST, ALL PHENOMENA CAN BE REGARDED AS A WEB OF RELATIONSHIPS AMONG ITS COMPONENTS, THAT IS, AS A SYSTEM. SECOND, ALL SYSTEMS HAVE COMMON PATTERNS, BEHAVIOR AND PROPERTIES WHICH CAN BE EXPLAINED AND/OR UNDERSTOOD TO DEVELOP GREATER INSIGHT INTO THE BEHAVIOR OF COMPLEX PHENOMENA AND MOVE CLOSER TOWARD THE UNITY OF SCIENCE.” (P. 130)

Simply put this mean that every situation is made up out of parts. These parts can, if seen from a distance, form a pattern, that can be used understanding of the problem. By looking at the problem from a distance, details will be revealed that would not have come up through an analysis of the system’s constituent parts (ibid). In the case of this thesis it mean that the authors have not limited themselves to come in contact with interfaces that spare-part-kits are present in. The opposite would be to just look at how spare-part-kits would affect the customers, and not internally in the organization.

### 2.2.2 Structuralism

Structuralism complements the systems theory by looking at structures made up by tangible, cultural and/or structural networks. This can be likened with the way that a language consists of some grammatical rules that cannot be explained, but only understood while being inside the culture that understand the language (ibid). In this thesis this has been applied by meeting employees from different parts of the organization and discussing the differences with the supervisor(s) assigned from the case company.

### 2.2.3 Holism

Other than studying the parts and how they interconnect, holism look at explaining a situation from a holistic perspective, in this



case being the whole organization. By interviewing employees on different functional and hierarchal levels, the authors have strived to cover a more complete picture of the implications of spare-parts in the organization. (ibid)

## 2.3 THE PROCESS

### 2.3.1 Overview

The thesis has been divided into three steps (1) Orientation, (2) Exploration and (3) Synthesis. The input value has been the problem formulation by the case company, and the output the finished thesis. Arbnor and Bjerke (2009) suggest a process, which is comparable to the authors' process, with the difference that the authors have added an *Orientation-stage*. Due to that the problem was pre-defined the authors added the *Orientation-stage* in order to critically ensure that the outset of the study was addressing the root-cause. This also included an orientation in the already established literature related to the problem. Due to this dual purpose the *Orientation-stage* is found being placed in both the area of practice and theory. A visualization of the process is presented in Figure 2 and each one of the three stages is further explained in the following sections.

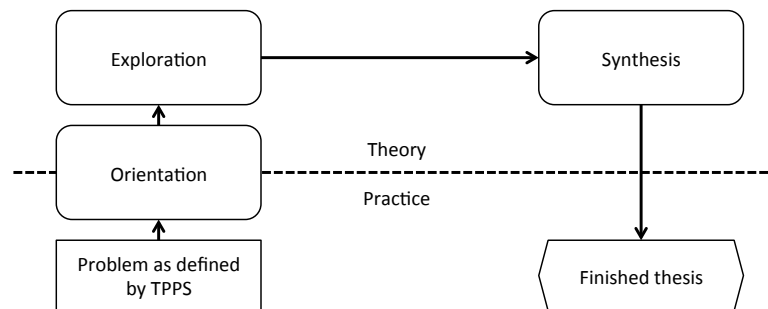


Figure 2: The methodological process of the thesis as adopted by the authors from Arbnor & Bjerke (2009).

### 2.3.2 Orientation

The purpose of the orientation phase was to understand the problem defined by TPPS. Both empirical data and existing literature contributed to a deeper orientation of the problem. The problem and purpose of the thesis was constructed by doing several iterations with supervisors both from the University as from TPPS (presented in Figure 3). Finding a purpose that could fit within the time-scope of the thesis was time consuming in it, most likely due to the size and disparity of TPPS. The theoretical review made it clear that there was no existing literature that could fulfill the current purpose of the paper to a full extent. The theory review was also undertaken with the purpose of creating a knowledge base for the future work through developing an initial understanding that were not influenced by TPPS but only with literature.

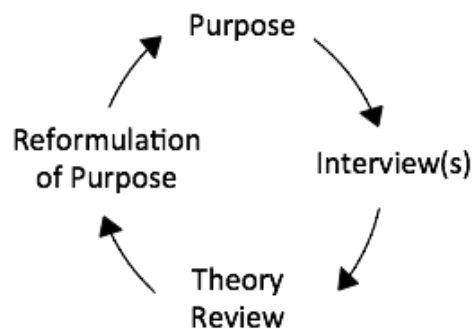


Figure 3: The iteration process used by the authors during the Orientation-phase (authors' own figure)

### 2.3.3 Exploration

Once the purpose and problem of the thesis had been defined the authors analyzed the core problem further. The purpose of the exploration phase was to understand which parts of the organization that the spare-part-kits would impact, so that the proposed solution would not become sub-optimized. This was done by interviewing stakeholders in the organization with interests in spare-part-kits to see the reasons for and against working with

spare-part-kits. There were no interviews with customers due to time-constraints. It was, however, possible to interview representatives from the market-offices that have direct contact with the customer. Through this it was possible to get insights into how spare-part-kits would affect the customer, apart from what had been found written by previous scholars. The main point found was that the customers would get additional value from the spare-part-kits, why the authors combined knowledge from the organization about the customers, with theoretical data about how customers could perceive and value spare-part-kits. Following the holistic perspective this was also complemented with knowledge about how spare-part-kits would affect the organization.

#### 2.3.4 Synthesis

The synthesis filled a purpose of combining the found knowledge in a comprehensive way to enable the authors to draw conclusions answering to the purpose. This was done by following the structure of the research questions, which were complemented with supporting questions presented below:

- Who are the stakeholders involved in the purchase of spare-parts?
- Why is the concept of spare-part-kits relevant to suppliers of spare-parts?
  - What activities is the customer doing?
  - How could customer satisfaction be increased?
  - How can spare-part-kits affect customer satisfaction?
  - When can spare-part-kits affect customer satisfaction?
  - Which customers will have gain out of spare-part-kits?
- What should be considered when implementing spare-part-kits?

## 2.4 INTERVIEWS

The interviews that have been conducted have been supported by a pre-formulated interview-guide (presented in Appendix 4, 5 and 6), but with the freedom to change the order and emphasis of the questions. The reason for choosing this method have been due to that there have been difficult to estimate in which area related to spare-part-kits that each interviewee had most knowledge in. The method also gave a more explorative tone to the interviews to go in hand with the holistic perspective of the thesis. The interview form also opened up to the possibility of asking follow-up questions, which enabled the authors to capture, on forehand, unanticipated aspects, themes and details (Bryman & Bell, 2005).

The interviews have, dependent on the interviewees' language preference, been conducted in Swedish, English as well as in Danish. Since the authors' mother tongue is Swedish, the interviews made in Danish and English have been more open to the risk of misinterpretation. In order to passage this fact, the interviews in Danish and English were recorded in order to be able to correct eventual misunderstandings afterwards. The pre-formulated interview guide was developed to cover all parts of the thesis' scope.

## 2.5 THEORY REVIEW

The theory review was done through search engines intended and developed for academic searches: Google Scholar, LUBsearch and LOVISA. The search was based on different variants of the words: *maintenance, spare-parts, bundling, aftermarket, after sales service, customer satisfaction, customer value, value chain, disconfirmation model, lean consumption, servicizing, selling services, product servification.*

Combining the above-mentioned phrases gave the authors input to essential knowledge needed to arrive at the conclusions of this thesis. However, the authors were not able to find theories concerning how companies could become a more attractive

supplier of spare-parts by using spare-part-kits, or bundling together, their spare-parts.

Regarding the after-market, and the importance for companies approaching and extending their offerings to it, most of the articles found are either related to consultancy reports or Harvard Business Review articles. This have given an indication of how relevant the after-market is for the authors, giving the thesis an increased importance not only for TPPS but also for firms selling products for which there is an after-market.

In searches for finding a way for companies to improve their offering of spare-parts, most articles are related to how companies can improve their logistics, supply-chain or calculating and forecasting demand of spare-parts. Even combined with the term “satisfaction” the largest focus laid on improving the supply chain for the customers and through that increases their satisfaction.

The relationship between spare-parts and bundling has been discussed, but not bundling the spare-parts together, but instead bundling spare-parts with services. This have earlier been mentioned in the report, and referred to as service-agreements.

There are theories regarding bundling in other fields, and also regarding a term “servification”, which is how companies can sell their products based on its function, rather than that the customer want to own the product. This is related to this thesis, and has been used to formulate some of the recommended future steps from the report.

## **2.6 METHODOLOGICAL FRAMEWORK**

To support the methodology of the report, Osterwalder’s & Pigneur’s (2010) framework Business model canvas, together with its extension the Value Proposition Canvas (Osterwalder, 2012) have been used. Both of the frameworks can be more thoroughly explained in Appendix 1 and 2.

### 2.6.1 Business model canvas

The business model canvas is a tool used for the purposes of strategic management, to break down the business model of a company in its constituent parts. This can be used to map the way that the company create value, redesign the business model, and reinvent the way that the company generate its value. The building blocks of the business model are presented in Figure 4. (Osterwalder & Pigneur, 2010)

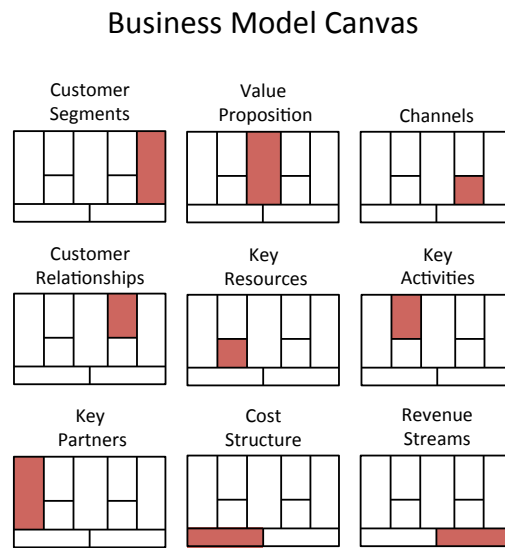


Figure 4: The full Business Model Canvas adopted by the authors from Osterwalder & Pigneur (2010)

### 2.6.2 Value proposition canvas

An extension of the Business Model Canvas is the Value Proposition Canvas, which is shown in Figure 5. By analysing the interface between those two, a company can understand what they are offering and what the customer wants, to see how well those two are aligned. Customer segments are broken down into Customer jobs, which explain what jobs that the customer are trying to do. Customer jobs are complemented with Pains and

Gains, which is what positive outcomes that the customer is looking for, respectively what negative situations that the customer is trying to avoid. Value proposition is broken down into Products & Services, Gain creators and Pain relievers, which are the equivalent to customer pains and gains but in respect of what the company is, or is able to offer rather than what the customer is looking for. (Osterwalder, 2012)

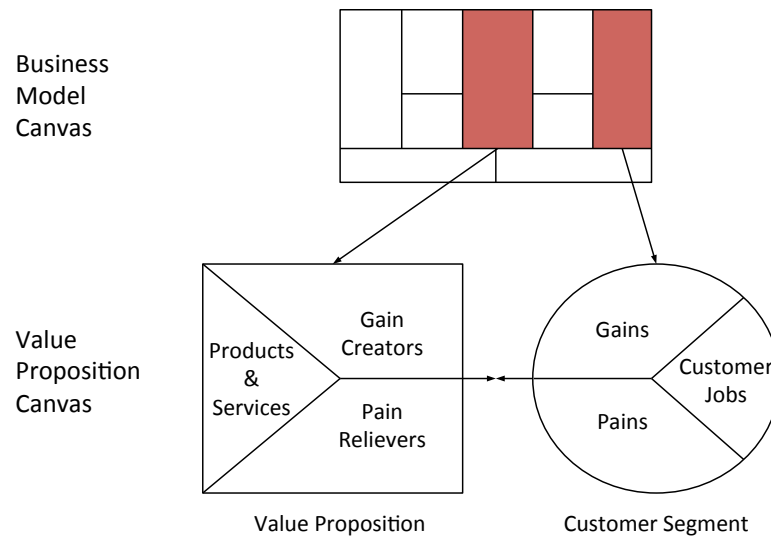


Figure 5: Osterwalder's (2012) Value Proposition Canvas and its relation to the Business Model Canvas (Osterwalder & Pigneur, 2010) (authors' own figure)

## 2.7 RELIABILITY AND VALIDITY

### 2.7.1 Reliability

The reliability of the study refers to how reliable the result would be if the authors or the case company would be replaced, or if the authors would redo the study.

The authors believe that if they would have been replaced, the result could be different, due to the specific background of the

researchers. One author has a background in business & sales and the other in engineering and supply chain management. This has made a large contribution to the content of the discussions and the ability to deduct information and draw conclusions. The authors themselves have had used a conscious methodology of carrying out the work of the study; however, some of the work has been in an explorative manner, reducing the ability to perform the study once again with the same results.

The case company in question is also specific, with a long history of working with high-level technical solutions, which have had an effect on the culture of the company. The company itself is vast and disperse, making it a challenge to find a comparable study object.

#### 2.7.2 Validity

With reliability, the authors want to discuss whether the study actually measures what the study is intended to study. In this case, it is to see if spare-part-kits can contribute to customer satisfaction, and also how spare-part-kits should be implemented.

The main criticism against the result of how well spare-part-kits can contribute to an increased customer satisfaction is that the authors have not interviewed any customers, only company representatives with experience from customers. However, by interviewing a large number of independent employees with customer experience, the authors believe that the result is reliable and thus of high validity. The second point, regarding how the spare-part-kits should be implemented, has been based on four case studies. These case studies have been conducted on either internal functions or external partners to the case company. The purpose of the case studies has been to give an indication of how an implementation of spare-part-kits can be done for the case company. As the case studies have been conducted in different industries and functions, the usage of these conclusions are believed to be of a large validity for this thesis and the case company.



### 2.7.3 Credibility

The credibility of the report is based upon the logic that have been used, and how well the reader can follow the arguments back to its original source, which needs to be verifiable. Furthermore for the thesis to be credible, the authors need to make a convincing argument showing both of the sides of the argument.

The credibility of the report have been strengthened by that the authors have interviewed a large variety of employees, which have been used to verify the logic of answering the research questions. However, the authors have not encountered any employees strongly against the spare-part-kits, which can be an indication of that a larger number of respondents should be included. Furthermore, the authors have not interviewed any direct customers, only divisions that direct contact with the customers, which can reduce the credibility of the argument due to incomplete information.

## 2.8 INTERVIEWS

The case company is a highly complex organization with different divisions, which are interconnected on multiple interfaces. The authors have used the supervisors' knowledge and network in the organization to find the interviewees. The selection has also been based on the business model canvas, to reach persons on all the relevant levels in the organization, as well as having a hierarchical spread. One risk with letting the supervisor choose the interviewees is that there is a factor of bias involved, depending on the intention of the outcome of the report from the supervisor.

### 3 THEORY

#### 3.1 INTRODUCTION

This chapter give the reader the necessary understanding of the previous knowledge that the authors have used to analyse the problem at hand. The theoretical framework is presented Figure 6 and divided into three sections, which follow the same logic formulated in the three research questions. The first section gives the reader an understanding of the different parts of the customers' organization. The second part will provide a basis for how spare-part-kits are relevant for an organization selling spare-parts. The third section provides the basis for the current methods to improve sales of maintenance in general and spare-parts in particular. The theories are also presented in Figure 7, which show how they are used with the basis in the methodological framework used in the thesis.

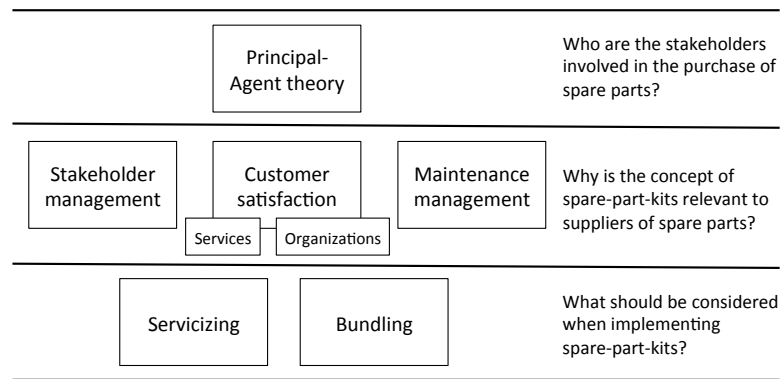
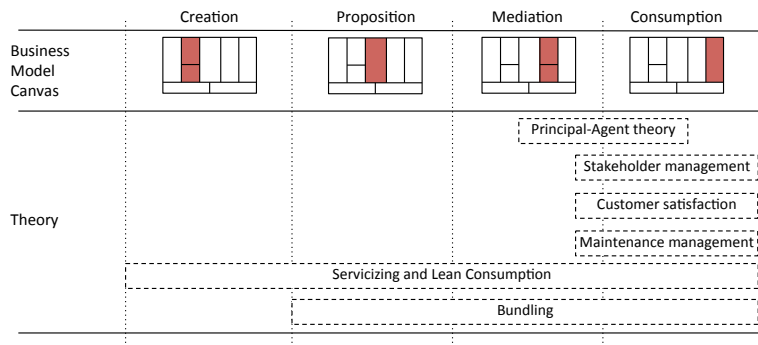


Figure 6: An overview of the theoretical chapter of the thesis and how the different theoretical fields relate to the thesis' research questions (authors' own figure)

## Unveiling the power of selling spare-parts as a happy-meal



**Figure 7: An overview of how the presented theory is used and interconnected with the methodological framework of the report.**

### **3.2 WHO ARE THE STAKEHOLDERS INVOLVED IN THE PURCHASE OF SPARE-PARTS?**

#### **3.2.1 Principal agency theory**

The principal agency theory emerged during the 1970's, and was developed by combining theories with base in both economical and institutional disciplines. The principal-agency problem is based on that two entities, the principal and the agent, are involved in a decision-making. One part, the agent, is able to make decisions on behalf of the other part, the principal.

This results in the principal-agent problem, which is due to that the incentives between the two parts are not aligned, and there is a risk of that they act in their own self-interest. Furthermore there is a presence of asymmetric information, meaning that the principal in almost every case can't have the same information as the agent. (Jensen & Meckling, 1979)

An example of this would be a manager (the agent) and the shareholders of the firm (the principal). The agent can make decisions that will affect the return to the shareholders. However, due to that it often is possible for the manager to carry out work that will benefit him/her more than the shareholders, the risk of

him/her acting in his/hers own self-interest is present. Furthermore, the definitive presence of asymmetric information makes it too expensive to track the agents every move, and the principal can then not know if he/she acts on his/hers own self-interest or in the interest of the firm.

### **3.3 WHY IS THE CONCEPT OF SPARE-PART-KITS RELEVANT TO SUPPLIERS OF SPARE-PARTS?**

#### **3.3.1 Stakeholder management**

Stakeholder management is used to map which persons or organization that have interest in a project or an organizations activities. A stakeholder is someone who has invested capital, human or financial or something else of value in what is being investigated (Clarkson, 1994) or some category of entity from which an organization cannot survive. Primary stakeholders can be capital suppliers, employees, suppliers, customers, community residents or the natural environment. (Clarkson, 1995)

By working with stakeholder management, a firm cannot only increase the probability of a continued participation from the stakeholders, but also enhance the firm's ability to outperform competitors by creating complex relationships in terms of long-term value creation. (Clarkson, 1995)

The shareholders can be categorized by Importance and Influence, the higher the influence, the higher the power to influence a decision as, for example, having the power of authority. The higher the importance, the higher the power the person can have over the decision by i.e. being an opinion leader. Their attitude influences the persons who participate in the actual delivery of the outcome. (Kennon et al, 2009)

#### **3.3.2 Customer satisfaction**

Customer satisfaction has long been recognized as a central concept in marketing. The main purpose of the concept is to attach a measurable entity to why a customer decides to buy. (Anderson et

al. 1994) The concept itself can be broken down into two parts, either defining it as the cumulative customer satisfaction or transaction-specific customer satisfaction (Boulding et al., 1993).

The cumulative satisfaction is defined as the overall experience of consumption with good or service over time (Fornell, 1992) while the transaction specific satisfaction measures a specific event in time. Anderson et al. (1994) have investigated the relationship between customer satisfaction and economic returns in a comparable way to the approach of this thesis, why the authors have chosen to follow the same logic and also used the concept of cumulative customer satisfaction.

*Why is customer satisfaction important?*

Firms strive for sustainable economic profitability, and researchers have shown a close relationship between profitability and customer satisfaction. However, many companies that are experiencing high levels of revenue and profit growth often will realize that the actual customer satisfaction is decreasing over time. Researchers have showed the reason behind the declining profitability being that the employees have less time to focus on customer needs and more on managing the internal growth of the company. By realizing the importance of focusing on customer satisfaction, companies can increase their possibilities of creating a more long-term sustainable profitability. (Anderson et al. 1994)

Customers should be treated as assets and all expenses done towards increasing customer satisfaction should be treated as investments rather than costs, to take on this long term-perspective of economic profitability. By increasing the satisfaction, customers will increase their expectations on what they get from the company, and associating all products and services with good quality. This can be a challenge for the company in short term due to the higher expectations on what they deliver to the customer. However this will pay off in the long term, because all positive experiences will become accumulated over time, and at the time that they are no

longer exceeded, the relationship will be strong enough to handle the situation. (ibid)

*How is customer satisfaction created and measured?*

Customer satisfaction is a concept, a mental representation of something substantial that in this case is the perception of satisfaction from a customer's perspective. To make the concept useful for firms, the drivers and the implications of low respectively high customer satisfaction need to be investigated. The implications of customer satisfaction have previously been described as sustainable profitability, making the concept relevant to use for an organization, which naturally strives to achieve this goal. Left to understand is how it should be measured, and what that affects the degree of satisfaction to change.

Both researchers and practitioners have agreed upon the confirmation/disconfirmation model as the primary model of measuring and understanding customer satisfaction (Oliver et al. 1989). The model was originally developed by Richard L. Oliver and presented mainly in two articles written in 1977 and 1980. The model was constructed from a psychological and marketing perspective but has been used in many other fields since its appearance. The model is based on that customer satisfaction is affected by a how well the performance of a product or a service is in line with the expected performance. (Tse & Wilton, 1988) For example, a customer who purchases a chocolate bar will have expectations on how well the product will taste. The taste of the bar is matched against the expectations, and is either better, in line with, or worse than the expectations. The outcome of the relationship between expectations and perceived value leads to either satisfaction or dissatisfaction with the product.

The model has been developed over the years to also incorporate the effect that the initial expectation have on the satisfaction directly. This is referred to as cognitive dissonance (Festinger, 1962) and means that if the perceived result do not live up to the expectations, the customer can still be satisfied. The customer will

in this case hold contradictory beliefs, which over time is hard to do for any individual. To solve these contradictory beliefs, the customer will in most situations rationalize their purchase and not accept that they could think so wrong about the product in the beginning. (Tse & Wilton 1988)

If a customer have high initial expectations, through for example marketing efforts, and the expectations are not met, it can, due to the reasoning above, still result in a satisfactory purchase. If the individual have made a large investment in a product, for example bought a car, it is more likely that the individual will rationalize the purchase. This can be done in two ways, either the customer will not put as much value in their own initial expectations, or they will change the expectations themselves. By doing this the disconfirmation (difference between expectations and perceived result) will become positive and thus create a surplus, and end in a satisfaction, which will make the individual to feel better about the purchase. The theory is summarized in Figure 8, showing what affects the customer's satisfaction. (Tse & Wilton, 1988)

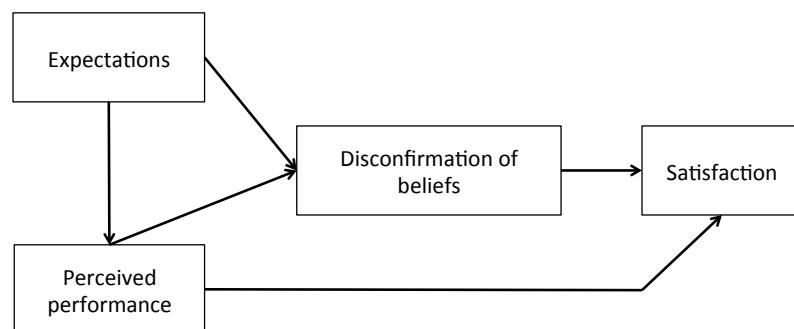


Figure 8: Conceptualization of how customer satisfaction is created based on expectations and perceived performance (Oliver, 1980).

*Importance of relationships*

To create opportunities for reoccurring customers who come back and continue to buy products from a firm, customer satisfaction by

itself is not sufficient. What also become apparent is the quality of the interpersonal relationship between the buyer and the seller. Future sales opportunities are closely dependant on the quality of the relationship, from which the customer can derive the conclusions of the possibility that his or hers expectations are met, and that the seller have the best intentions in mind. To make this possible the relationship need to be maintained over time by cooperative intentions. The more complex the offering is from the seller, the more important is the relationship towards the buyer. (Crosby et al., 1990)

### 3.3.3 Creating satisfied organizational buyers

When an organization is procuring a service or product, there is most likely more than one person involved in the process. The probability is also high that the person, who uses the product, is not always participating in the process of procuring the product. But there is one way to distinguish the drivers for recurring purchases. (Tanner, 1996)

Employees are affected by external control mechanism, often in the form of KPIs, which is used to evaluate employee's performance. This could be one purchaser, which is evaluated based on his ability to reduce the relative cost of procuring spare-parts from one year to another. Other than that, employees are also affected by intrinsic factors. Meaning that when the product is important to the employee in fulfilling his/hers work, the more important is it that he/she is satisfied with the product. But if the product is seen as just a necessity, the satisfaction of the product is not of that high importance, which opens room for focusing on something else - the process. (ibid)

The process in which the products and services are bought through is a way to make the important stakeholders satisfied, even when the product is not of that high importance. The person who buys the product is always involved in the process, and if it is possible to make that person satisfied and simplify the purchase, it is also more likely that it will happen again. (ibid)



*Lean consumption*

The simplification of the process have been looked upon more closely since James P. Womack and Daniel T. Jones wrote their article “Lean Consumption” in Harvard Business Review in 2005. Since customers have a larger range of products and channels to procure from then ever, consumption has become more complicated than before. Many companies have tried to solve this by giving away work to their customers, who often have to fill web-formulas and other work, which is often a hinder to their consumption and ability to easily procure material. This has brought the authors to writing the article about what they call “Lean Consumption” which is an approach to treat the customers of the firm, and builds upon six principles:

- 1) Solve the customers problem *completely*
- 2) Don't waste the customers time
- 3) Provide exactly *what* the customer want
- 4) Provide exactly what the customer want, *where* he want it
- 5) Provide it *when* it's wanted
- 6) Aggregate the solutions to reduce the consumers time and hassle over time

The principles sound simple but are in many cases not followed. Companies do not put an effort in providing the full value with the least amount of pain to the customer. A company that want to excel do not only have responsibility to sell the product, but need to see the whole process and make it is as easy as possible for the customer to consume. (Womack & Jones, 2005) Also derived from working with lean consumption, is that the brand image is strengthened. The effort in simplifying the consumption gets aggregated and accumulated in the brand image that the customer has towards the supplier. (Truch, 2006)

3.3.4 Maintenance strategies

There are different ways that firms can work with maintenance of their machines. The two most common methods are to either work with corrective maintenance or to work with preventive

maintenance. During preventive maintenance the plant manager acquire data or experience from how reliable the parts is, from which he design a periodic maintenance program and replace the parts before they result in a machine break-down. Corrective maintenance is done when a machine breaks down, and the part is replaced to correct the part broken. (Bevilacqua & Braglia, 2000)

### **3.4 WHAT SHOULD BE CONSIDERED WHEN IMPLEMENTING SPARE-PART-KITS?**

#### **3.4.1 Servicizing**

Servicizing is a method of changing the way of how products are sold, by not selling the product itself but selling the function of the product. An example of this would be for a company who sell servers, to start selling server capacity. One example of this is Scania, a Swedish manufacturer of trucks, who define themselves not as a producer of trucks, but as a supplier of transportation solutions. (Scania, 2015) This is the way that companies have started to use this strategy, and sometime not even transferring the ownership of the product to the customer, but keeping the ownership at the manufacturer, and only offering the needed services to keep the product functioning.

The upside with working with servicizing is that the relationship between the seller and buyer can be created with a common goal and shared incentives. Today a manufacturer often strives for a high selling price as possible, while the customer wants an as low price as possible. The manufacturer want profits from doing maintenance, and the only reason for not creating low quality products with more extensive needs of maintenance, is the risk of damaging the company reputation from bad quality. This is a relationship based on mistrust with risks that each of the parties act in their own self-interest. But if instead working with a servicizing strategy, the manufacturer will for example perform and take the risk of maintenance, giving them incentives to make products with high quality. Customers also want to reduce the number of maintenance events, due to that this, in the long-term, can lead to a

lower rate of renting the product, as they can give indications that they know how to take care of the product. (Toffel, 2008)

The challenges with servicizing are that the company that buy the service will become dependent upon the supplier. Often companies need to have specialized equipment, and will have to rely on the supplier of providing and maintaining this equipment, as well as choosing which machinery to procure. This can create power-unbalance between the supplier and the buyer, and create lock-in effects for the buyer, being forced to choose the current supplier due to the high costs invested in the relationship. Furthermore, the supplier may need to negotiate the minimum of maintenance occasions, due to that if it does not exceed a specific limit, the supplier may be losing money on the customer every year. (ibid)

#### 3.4.2 Bundling

A bundle is a way of combining products in different ways, to either simplify the purchase for the customer, or to add value through the bundle. These two forms are called *price* and *product* bundling. A *price bundle* is created when products are put together for mass consumption, as for example a six-pack of beers. A *product bundle* is created when an effort have been made to increase the value of the kit above the value over the discrete parts. The product bundle will not only provide additional value for the customers, but also have the potential to save costs and create differentiation for the company in highly competitive markets. (Stremersch & Tellis, 2002)

Bundles can also differ in the way that the products are offered. Either all the products only are available in the bundle as in a *pure* bundling strategy, or with a *mixed* strategy, in which the customer can buy the article both in the bundle but also separately. For a company in a highly competitive market, the mixed strategy is superior, due to the possibility to cater a larger amount of customers, who have different needs. (ibid)

## 4 EMPIRICAL DATA

### 4.1 INTRODUCTION

In the empirical section the findings from interviews and written material is presented. The material has been collected from internal functions at TPPS and case studies from both within and outside TPPS's own organisation. The empirical data offers coverage to all four parts in the scope of the thesis as illustrated in Figure 9 below.

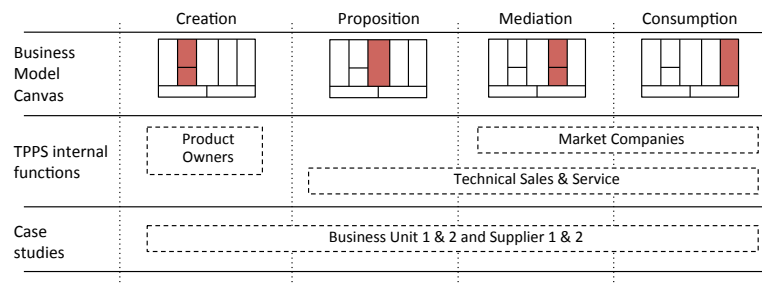


Figure 9: The empirical data sources relative positioning to the scope of the thesis (authors' own figure)

### 4.2 TPPS INTERNAL FUNCTIONS

The following sections will aim at providing the reader with an empirical base originating from TPPS's internal functions. The functions in question are (1) Market Companies, (2) Product Owners and (3) Technical Sales & Service.

#### 4.2.1 Market Companies

The market companies of TPPS are the ones actually meeting the end-users. In this work they are responsible for carrying through the selling process and being the intermediate part between the rest of the TPPS organization and its customers. In the terms of the Business Model Canvas, they are the channels towards the customers and their work is to build customer relations. Based on this the authors have regarded their input to also represent and give

insight into Customer Segments since a full market survey directed towards the actual customers was considered to not fit within the time available for the thesis. The input presented below is based on a questionnaire answered by market company representatives from Europe, Middle East, Africa, China, and Americas. Appendix 3 offers a full presentation of the questionnaire and the corresponding answers.

*The Customers and Spare-part-kits*

According to the market companies the customers look upon the existing spare-part-kits with keen eyes. This since the customers is experiencing increased simplicity in the ordering process of spare part with kits instead of single parts. Once the goods are received it is also said to be more convenient to handle, stock and use both during its time in the warehouse as when being used by technicians. Having the spare-parts packed and sorted based on need better facilitates the time of the user due to the simplified handling.

Furthermore the market companies feel that they can offer the customers a solution instead of single parts, which fits well into the objective of helping the customers becoming more preventive in their maintenance strategy.

*Benefits with spare-part-kits*

Regarding spare-part-kits the market companies have a generally positive impression of the concept and therefore also something they search to expand to categories where it is currently not available. The market companies also experience many of the benefits coming to the customers since spare-part-kits eases the pressure put on the process around spare-parts is simplified and therefore becomes more agile. The increased agility comes from the fact that the number of order lines to be handled by order handling, and logistical functions, are decreased dramatically<sup>1</sup>,

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<sup>1</sup> Authors' comment: Logically should the number of order lines with service- kits decrease to a level of  $1/x$ , where  $x$  is equal to the average

which hence streamlines communication. Following this, it becomes easier to quote before landing an order why the process also could be done faster, which in turn help increase the sales organizations overall efficiency. Increasing the simplicity in the product range also lowers the threshold for newly employed, as they do not have to reach a status of near technician to understand and efficiently navigate their own products.

Spare-part-kits also, as stated in the previous section, help the communication of the value of preventive maintenance since the kits fits the demand induced by such a maintenance strategy. However, to reach this advantage the kits need to be sufficiently relevant for the customer and its installed equipment. If this is reached then the spare-part-kits helps secure a properly executed service as well as it tends to help the market companies in selling in and implementing service level agreements. As the kits most often are priced with a discount compared to the buying its constituent parts, the concept also become easier for the market companies to sell in.

*Challenges and improvement areas with spare-part-kits*

Even though the concept with spare-part-kits has been successful there are still existing improvement areas and challenges.

As the previous section pointed out the market companies discount a rebate on spare-part-kits since it is their belief that the customers otherwise would be prone to choose single parts instead. Meanwhile this is the most common opinion, input from the Middle East market company see the possibility of having a non-discounted pricing if the kits are included in a service-level agreement and/or comes together with a performance guarantee. To be able to offer a guarantee of performance, given proof that

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number of items included in a kit since these would alternatively need to be ordered one by one.

certain maintenance behaviour have been made, is seen to create a key differentiator.

The market companies have experienced that their possibility to influence and give feedback backwards in the TPPS-internal value chain is close to none regarding offering development. If their feedback is taken into consideration this is not communicated back to the market companies, which removes the incentive for the market companies to keep on reporting feedback.

In order for the market companies to be able to be effective and efficient in their function they need to have a base of correct documentation and marketing material. The update of this material is a challenge in the eyes of the market companies since a lot of changes occur during the life cycle of a machine. Due to this it also becomes important to have an effective process for providing the market companies with continuously properly updated documentation. Either design improvement and/or obsolete parts might incur the changes, whichever it is a mismatch might mean time-consuming and complicated detective work that in the end might risk being inaccurate in its result.

In the same way the documentation for new equipment needs to be updated, the historical data for installed machines needs to be secured in order to be able to keep on supporting existing customers.

Due to that none of the existing kits fits exactly the needs of the customer, the ordered kits need to be customized, which make the kit losing its value from being convenient. This situation is also apparent when the customer need to buy a kit which consist of more parts than needed, and those parts need to be thrown away if not used. In this case, the market companies find themselves in a predicament of motivating the price of the kit since it is obviously not needed in full. Either there are too many or too few parts included in a kit, the market companies' wishes for a precision in customizing the kits so that they will fit each one of the customers' needs perfectly.

In order to fully leverage the convenience-factor of the concept, it is also important to have a pedagogically marked packaging of both the kit as a whole and for each one of its constituent parts. It should be clear for the user which item having what part number as well as them being packed in relation to each other in the same relation as they are used. This makes it easier for the technician to understand what the spare-part-kit includes in total, but also to which context each part belongs to.

#### 4.2.2 Product Owners

##### *Benefits with spare-part-kits*

Kits would have the potential to simplify the ordering process, reduce time-consuming activities, and help reduce orders where the customers have ordered inadequate spare-parts from third-party suppliers. By offering the customer the opportunity to, in collaboration with TPPS, set up their maintenance routines, trust from the customer will increase. Furthermore the customers with the highest sales may also be interested in reducing time spent on ordering process, which also can be beneficial for TPPS sales. (Heincke, 2015; Jönsson, 2015)

The customer can order only one product instead of multiple ones; technicians have easier to know which products to replace and the customer are assured that they get the right quality on each product. Furthermore, it is allegedly so that the market companies would welcome spare-part-kits, as it would simplify their duties. (Jönsson, 2015)

##### *Challenges with spare-part-kits*

The reason for that TPPS have not implemented spare-part-kits before can be because of the technical focus in the organization, meaning that the focus has been on selling the best machines from a technical perspective. This might have moved focus away from customer experience. The current shift in the industry has made TPPS more aware of the possibilities in looking at simplifying the relationship between TPPS and their customers. (Heincke, 2015)



To make a successful implementation, spare-part-kits need to be technically natural and fit into the way the machines are designed, i.e. designed for service. Furthermore, the spare-part-kits should be designed with the different service intervals taken into account so that the customer is offered the ability to change all the parts at the same time.

*Pricing*

According to Heincke (2015), should the prices for the spare-part-kits be lower than the specific parts, to not upset the customers, which can hurt the trust for TPPS from the customers. Today the spare-part-kits are sold to a 10-15 % discount, but the reasons for this is unclear. The spare-part-kit provides value for customers and could therefore be sold to a higher price. But by offering discount the customer can be used to that norm, making it hard to change the pricing strategy towards a premium pricing. The other way around (first price the kits with a premium and, if not successful, change into a discount strategy instead) is however possible. (Jönsson, 2015)

4.2.3 Technical Sales & Service (TS&S)

TS&S is a part of the TPPS organization with the main responsibility to sell and provide customers with technical services. TS&S provides maintenance, training as well as the sales of spare-parts. In doing this, there are several important stakeholders to regard within the customer companies. In the case that an industrial purchaser is involved, this individual is, if lacking notion of other important aspects, often measured on the purchased value and how this develops over time. The relation and the development possibilities thereof are also important to a purchaser. Two other stakeholders are also a production manager and/or a technical manager, where the technical manager often is the one signaling for the need of spare parts. Although both have a close relationship to TPPS's machines they are often measured differently. The production manager is often guided by efficiency measures meanwhile the technical manager is measured with a focus on cost coming from maintenance. This often makes it a challenge to

communicate the value of a holistic view on cost and its relation to up-time, efficiency and machinery output. (Lindqvist, 2015; Ryding, 2015)

*Customer segments*

TS&S is today using a tool for segmenting their customers (see Figure 10). The division has had a great use of the tool, which has simplified their work with their customers. The tool is a matrix divided into four fields; built up of a vertical and horizontal axis. The vertical axis gives an indication on “Operational maturity” and the horizontal on “Willingness to outsource”. Operational maturity is defined as how well the company has developed their machines and adapted to new technology. Willingness to outsource on other hand is about how prone the company is to outsource their activities to some other part. To provide an understanding of the effects of low, respectively high scores on the axes, examples for each one of the four fields will be provided. (Lindqvist, 2015)

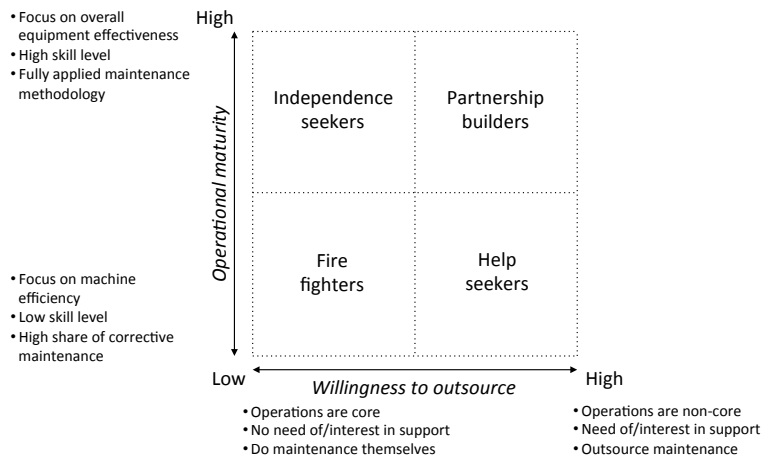


Figure 10: The customer segmentation tool used by TS&S (Lindqvist, 2015) as adopted by the authors

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The lower the customer scores in willingness to outsource, the more the customer bases their offering towards their customer on their production. A company who produce a dairy product, which only they know how to do, will not be likely to outsource their production. This mean that this company will want to put efforts into make the production more efficient. On other hand, a company who would like to outsource their production, probably base their value offering to the customers on other factors, such as brand image, etc. These kind of companies usually don't put large efforts in working with improving upon production, due to that the marginal benefit from doing this compared to for example marketing is lower. (ibid)

The lower the score on operational efficiency, the less have the company invested in their production, or the shorter time they have had production up and running. These companies are often willing to get help from TPPS on how their operations should be done, and will be adaptable to suggestions. The higher this score, the more independent customers, with high knowledge on the routines and requirements, only using TPPS as a pure supplier of spare-parts. (ibid) By using the segmenting tool, each box have been defined and described accordingly:

### *Independence seekers*

“FOCUSING ON INTERNAL PROCESS AND COST OPTIMIZATION. MIGHT HAVE THEIR OWN MAINTENANCE SYSTEM AND TEAM. POTENTIALLY INTERESTED IN CONTINUOUS IMPROVEMENT METHODOLOGIES.” (IBID)

### *Fire fighters*

“USUALLY FOCUSED ON COST WITH LIMITED COMPETENCE IN HOUSE. ROUND-TO-FAILURE APPROACH. PARTS ARE ORDERED UPON NEED. UTILIZATION IS NOT CRITICAL AND OFTEN LOW.” (IBID)

*Partnership builders*

“LONG TERM VIEW WITH FOCUS ON CORE BUSINESS.  
INTERESTED IN GUARANTEES AND LOOKING FOR  
CONVENIENCE, PREDICTABILITY AND PRODUCTIVITY.”  
(IBID)

*Help seekers*

“AWARE OF THEIR OPERATIONAL WEAKNESSES AND  
OPEN TO SEEK HELP. LACK QUALIFIED RESOURCES,  
APPRECIATE AND ACKNOWLEDGE THE VALUE OF  
EXTERNAL SUPPORT.” (IBID)

4.2.4 Summary internal functions

Table 1 provide a summary of the perceived benefits and potential challenges with spare-part-kits from the empirical findings from the internal functions at TPPS.

Unveiling the power of selling spare-parts as a happy-meal

Table 1: Summary of the takeaways that originate from the TPPS internal functions.

Summary internal functions	
<i>Benefits with spare-part-kits</i>	<ul style="list-style-type: none"> <li>• Customers enjoy using existing spare-part kits due to simpler, less time consuming and more accurate ordering and handling process</li> <li>• Technicians enjoy an easier task of replacing spare-parts</li> <li>• Market companies can more easily offer a full-range solution for customers</li> <li>• Market companies can simplify their order handling due to reduced number of orderliness</li> <li>• Market companies can easier communicate the value of preventive maintenance</li> </ul>
<i>Challenges with spare-part-kits</i>	<ul style="list-style-type: none"> <li>• How to price the spare-part-kits – lower, at the same, or higher than the constituent parts.</li> <li>• Facing customers that are used to buy spare-part-kits to a discount</li> <li>• Updating the documentation for the machines toward the market companies</li> <li>• Finding a way to make kits naturally fit together with the machines' maintenance cycles</li> <li>• Creating individual kits due to that customer equipment and maintenance needs differ</li> <li>• The organization have a history of focusing on technical aspects, making it possibly difficult to change focus to customer experience</li> </ul>

### 4.3 CASE STUDIES

#### 4.3.1 Business Unit 1

Business Unit 1 (BU1) is a subsidiary business unit to TPPS oriented towards selling machinery to manufacturers of a product with very strong seasonal demand. BU1 have previously per own initiative developed spare-part-kits that are now offered to their customers and have been so for approximately 10 years. The case described below points out that spare-part-kits have been a successful endeavor for BU1 why their experience also supports other business units to pursue a similar concept. (Nikolajsen & Klausen Guldborg, 2015)

#### *Current state*

Since having developed kits BU1 offers these in three different versions:

- Repair-kit
  - Includes parts needed for a minor maintenance service
- Extended Repair-kit
  - Includes parts needed for an intermediary maintenance service
- Service-kit
  - Includes parts needed for a major maintenance service

The three different versions are developed in such way that the Extended Repair-kit contains a Repair-kit but with additions of extra parts needed to the relatively more extensive intermediary service. The same analogy also applies to the Service-kit since this is partly built up by an Extended Repair-kit. (ibid)

Looking at the service-intervals these come recommended from BU1 and are presented in a task-list delivered together with the machine. Although the customer already have received all needed documentation and manuals for conducting all maintenance, BU1

have realized that their customers greatly appreciate an extra copy of the manuals appropriate to each one of the maintenance occasions. Following this, each type of kit also comes with the relevant documentation in order to ease the customer's maintenance process and hence decrease its machinery's downtime. An example distribution of service-intervals is presented in Figure 11. In order to give the customer incentives to buy the different kits instead of single parts, the kits are priced with a discount compared to the sum of its constituent parts. The discount given differs among the different machines and service-occasions but the discount is generally between 10 to 23 %. (ibid)

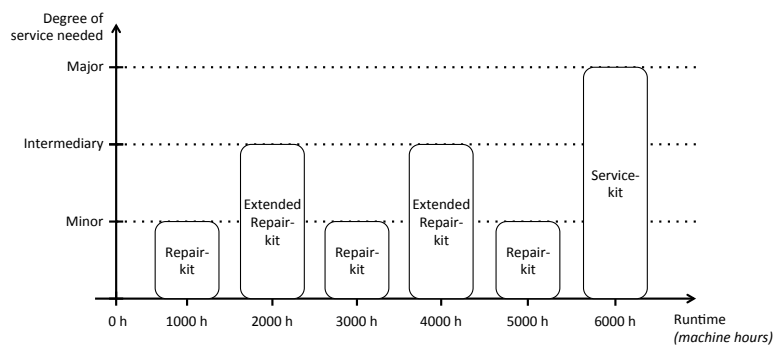


Figure 11: Conceptual illustration of how BU1 has adopted to the concept of spare-part-kits (Nikolajsen & Klausen Guldborg, 2015) (authors' own figure)

#### *The Customers*

BU1 have the experience that their customers either have one of two approaches towards in their maintenance strategy: (1) preventive or (2) corrective maintenance. Whether one or the other is followed, have BU1 realized, depends greatly on how the ordering function at the customer is measured and evaluated. The key concept regarding this is *uptime*. If the ordering responsible at the customer is evaluated on how much up time the machinery gives, this tends to induce a habit of planning and preventive maintenance. If the ordering responsible in contrary is evaluated on the amount of money being spent on spare-parts, a corrective

maintenance strategy tends to develop. "*Cheapest possible*" applies to both cases but the key question is on what base that statement is made and how it is defined. (ibid)

A way of working that applies to both maintenance strategies but mostly to the corrective one is alternative sourcing of the spare-parts. BU1 sees the customers' way of actively searching for alternative suppliers as their main threat relatively to their actual competitors pursuing BU1's customers. A central thing to pursue for BU1 becomes therefore to help the customers to change towards a more preventive, and uptime maximizing, maintenance strategy. However this might seem obvious, BU1's experience is that it takes long time to change the customers' way of thinking, since the customers see themselves as having the best knowledge regarding their own machinery. It is therefore a challenge for BU1 to communicate the value of preventive maintenance and the consequent purchase of more spare-parts. (ibid)

*Insights on Spare-Part Kits*

Looking back on the work connected to spare-part-kits conducted by BU1 this brings insights in the effects and challenges induced by introducing spare-part-kits as well as important input on how the process could be designed. The following paragraphs goes through what the authors found as the most important insights derived from the BU1's experiences. (ibid)

The main effect of spare-part-kits is that it simplifies the communication between the market-companies and the customers. As the kits summarizes what before was handled as several articles into one single order-line, it not only makes it easier to place and process an order but also to a greater extent ensures that the order actually corresponds to the customer's need. (ibid)

However, to take on the process to develop spare-part-kits is a time-consuming process that must be seen on with respect. To be able to motivate an allocation of resources towards kit-development a business case should be developed investigating



whether a critical mass of installed machines exists or not. Further, an analysis of machines is needed in order to discover for which types spare-part-kits are suitable. After having done the initial machine segmentation and having built supporting business case a good basis have been created to start communicating the concept to market-companies and customers. (ibid)

Once the concept of spare-part-kits is established it is vital to define what organizational function that should have the responsibility of continuously maintaining and developing the kits. The word *continuously* should be emphasized here since BU1 feels that they have developed their offer through valuable input from their customers. Examples of made improvements are kits that have been updated by removing and/or adding certain parts as well as changing the service-intervals to better fit the seasonal fluctuations in the customers' business. To keep a dialogue with the customer is generally important but when establishing the concept of spare-part-kits it is equally important to establish and define a communication process for continuous improvements. (ibid)

Looking inward to BU1's own operations the spare-part-kits have come to affect most parts of the organization in some way or another. Although the kits have rationalized the communication with the customer and the ordering process they have also added operations in terms of repacking and –branding. The added repacking procedure comes of the obvious reason of what before was handled as several stock keeping units (SKUs) are now handled as a single one, hence the need of repacking. An additional operation added by BU1 is however the rebranding. As a large portion of BU1's spare part assortment is not own made the customer could, quite easily, source directly from BU1's suppliers. It becomes especially easy if the spare-parts are delivered in the suppliers' own packaging and corresponding labeling. Due to this have BU1 decided to rebrand all items and remove as much they can of the information that could lead the customers directly to the supplier. In doing this BU1 adds an additional operation compared to when not handling spare-part-kits. The new extra operation have

however been welcomed by the warehouse staff since the task of repacking is easy to plan. Through this the new task is used to smoothen out fluctuations in workload that previously occurred due to its strong correlation with the current demand. (ibid)

#### 4.3.2 Business Unit 2

Another subsidiary business unit to TPPS is Business Unit 2 (BU2) that sells industrial machinery applied to mixing different categories of liquid food. BU2 have also per own initiative started working with spare-part-kit but have, in difference to BU1, just recently gone through the implementation.

##### *Current state*

After having introduced spare-part-kits, BU2 have gotten a positive experience of the concept by having seen a great increase in general turnover, even though the kits are sold with a 20-25 % discount. The concept is however far from fully developed and it still remains to develop kit for the whole product range, as kits are currently only offered for newer standardized products. Looking into the future the aim is to continue to develop the concept with kits to cover the bigger part of the product range due to its successful start. BU2 also aims at the spare-part-kits to be written into the manual following the machine as well as adding the kits to the internal online system for the market companies (internally named TALGO). (Vistisen, 2015)

##### *The Customers*

BU2's customers are not the end-user of the product and its related spare-parts, but instead TPPS's market companies. The main goal therefore becomes to formulate the offering so it will be of as good support for the sales organization as possible. Since the market companies represents other business units within TPPS besides BU2 it also becomes a challenge to uphold a proper level of detail knowledge regarding the vast product range handled. Spare-part-kits are therefore a welcome addition to the market companies since they only need to keep track of three part numbers to overhaul 70-80 % of a certain machine to which previously required 15-25 part numbers. The end-customer still gets the same

parts as before but the rationalized offer relieves the pressure on the market companies enabling them to focus on making their selling process more effective rather than keeping track of the product range. Another effect of the simplification is that the risk of wrongdoings is also decreased since the handling is being appropriated into BU2's own administration and its standardized flow of kits. (ibid)

The timesaving induced by simplifying the offering into a few kits does also reach the end-customers since their ordering process is also made easier and faster. By adding this extra value the customers are more prone to choose the kits and therefore lose the incitement to shop around for spare-parts from third-party suppliers. (ibid)

*Insights on Spare-Part Kits*

After the introduction of spare-part-kits BU2 have, as stated earlier, seen a great increase in total turnover and when looking at the future the estimation is that some of the market clusters would be able to double or even triple their turnover. To be able to reach this, a special product owner for the spare-part-kits have been appointed with undivided focus towards further development of the concept around spare-part-kits. (ibid)

The road up until the concept of today has not been without challenges for BU2 though. Due to the great disparity among their products and the high level of customization that is allowed when building new machinery the job of finding the lowest common denominator becomes time-consuming. BU2 estimates that the addition of one extra headcount would be welcome to be able to cover the workload. An additional half headcount is also needed in the warehouse to cover the extra work there. But by having the kits saves time continuously through the fact that the orders handled are better summarized than before which makes the handling quicker. (ibid)

#### 4.3.3 Supplier 1

One of TPPS's supplier's offers uses kits to a large extent why it becomes interesting to look at their supplier-customer relation in the search for generally applicable processes and activities. TPPS is the largest customer for Supplier 1 and the two companies have a historically close relationship.

##### *Current State*

When looking at spare-parts, Supplier 1 has two main categories: (1) wear parts and (2) breakdown- and metal parts. It is the first category that is used in the kits since the demand for this is periodic as well as the wear-parts being of a cheaper nature than the breakdown- and metal parts. R&D when developing the machinery initially defines whether one part should be included in one or the other category. The definitions of the both categories are then continuously updated as experiences are gained throughout the lifetime of a machine. (Weber, 2015)

Besides providing the spare-parts to the customer, the kits also include the relevant documentation and manuals together with eventual needed consumables such as, for example, lubrication. This is said to come with no extra charge and is instead included in order to give the customer an as easy use process as possible. (ibid)

##### *The Customers*

As initially stated, the biggest customer for Supplier 1 is TPPS. Although both TPPS and Supplier 1 both exclusively are involved in B2B, their place in the overall value chain differs when it comes to the business of spare-parts. Supplier 1 supplies TPPS with certain subsystems for their machinery, which implicates that the spare-parts provided by Supplier 1, are merely forwarded by TPPS to their customers; the end-user. (ibid)

About two fifths of the revenue coming from TPPS is derived from the purchase of kits. This is however somewhat misleading since the remaining three fifths constitutes of breakdown- and metal parts that have a much higher value per part than the wear parts included in the kits. Breakdown- and metal parts stands only

for one in every fifty parts sold, which accentuates the image of how much more expensive these parts are compared to a spare-part. The purchased volume therefore shows another picture where the kits represent a larger portion of the sales. After having introduced the kits, Supplier 1 experienced that the customers chooses the kits over single parts since it simplifies and leans the whole purchasing and use process. (ibid)

When it comes to pricing, Supplier 1, as in the cases with the earlier described two TPPS business units, also applies a rebate compared to buying the parts separately<sup>2</sup>. Despite the discount the kits are over-including in its content. This means that all parts in a kit will not be used entirely since the kits are formulated with the goal to cover as many variations of machinery as possible. The rationale in this comes out of the subsequent simplification in handling and administration when the number of variants is decreased. The result of TPPS and Supplier 1 coming to terms of what to include in the kits, is that somewhere around two million combinations of spare-parts are covered by only 24 different kits. For TPPS this has been welcomed and accepted since the administrative benefits also come to benefit them in their role as an intermediary part in the value chain. (ibid)

As the kits Supplier 1 provides to its customers have become a successful concept the customers have grown prone to conduct a more preventive maintenance strategy since that is what the spare-part-kits supports. Due to this Supplier 1 feels that it has gotten a deepened insight in their customer's maintenance behavior and habits. The support for a preventive maintenance strategy also provides an improved base for pushing service-level agreements, which is something Supplier 1 aims for since these ties their customers closer. (ibid)

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<sup>2</sup> Authors' comment: A rebate is applied according to the official price list but the authors have not taken part of any information adding transparency to the pricing of single parts.

*Insights on Spare-Part Kits*

By having introduced spare-part-kits Supplier 1 has been able to differentiate their offering from their competitors. Further they have changed their customers' buying behavior pushing them towards a more preventive maintenance behavior that as a consequence have led to an increase in uptime and durability for the customer who therefore have an increased satisfaction with Supplier 1's products. (ibid)

By rationalizing the offering, Supplier 1 has also been able to decrease its costs through a more lean order handling and administration as well as the logistics surrounding the concept. (ibid)

4.3.4 Supplier 2

Another example of a supplier to TPPS that applies the concept of spare-part-kits is Supplier 2 who supplies TPPS with a certain type of pumps that are included in part of TPPS's product range.

*Current State*

Supplier 2 has during the foreseeable past offered their customers spare-part-kits. According to the representative from Supplier 2 this is due to logical reasons since the nature of their products are such that the need for most spare-parts always occurs in collections.<sup>3</sup> (Johansson, 2015)

The spare part distribution for the European area originates from a single distribution centre where all products and kits with a sufficient frequency in demand are stocked. By aggregating the entire European demand a more responsive process is enabled. (ibid)

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<sup>3</sup> Authors' comment: As in the case with Supplier 1 the spare parts could be categorized into wear- and breakdown parts where the latter type constitutes of a more expensive and non-frequently replaced part than the former.

*The Customers*

The customers of Supplier 2 range all the way from sole proprietorships within the plumbing market to TPPS, which is the single largest customer. The smaller firms are commonly reached through intermediary partners<sup>4</sup>. According to Johansson (2015) only the larger ones of the customers have a preventive approach to maintenance meanwhile the rest, which is the greater part of the customer base, tend to have a more corrective approach triggered by breakdowns. Due to the corrective approach, price becomes a matter of lower priority falling behind both delivery time and the precision in fulfilling the need with the right type of item(s). (ibid)

*Insights on Spare-Part Kits*

Supplier 2 has earlier tried to have spare-part-kits that included more parts than what the customer needed, so called over-including kits that could supply the demand coming from more than one type of machinery. The experience was however not satisfactory since the customers did not approve with the habit of buying items just to throw some of them away. Due to this the concept has now been changed into kits specific for each one type of the standard services formulated for Supplier 2's machines. (ibid)

Furthermore does Supplier 2 not offer single parts, since the administration cost of this would dramatically exceed the value of each order. An additional reason is also that the properties of the pumps sold, only justifies service behaviour where all related parts are exchanged at the same time. (ibid)

**Summary – Case Studies**

In order to be able to better grasp the concept of spare-part-kits and its implications found in the previously presented cases, a summary of the authors' key takeaways is presented in Table 2.

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<sup>4</sup> Authors' comment: TPPS could also be included in the category of intermediary partners as they distribute spare parts to their customers even though it sometimes is their own service technicians performing the service.

Unveiling the power of selling spare-parts as a happy-meal

Table 2: Summary of the takeaways that originate from the above presented case studies.

Summary case studies	
<i>External effects to the customers' view on their TPPS</i>	<ul style="list-style-type: none"> <li>● Seen as convenient – “Easy to do business with”</li> <li>● Time- and competence-saving ordering process due to simplified offering</li> <li>● High accuracy in orders (order-conformity)</li> <li>● Heightened customer-inclination towards preventive maintenance</li> <li>● Reduced customer tendency towards alternative third-party sourcing</li> <li>● Ability to have a more differentiated offer</li> </ul>
<i>Internal effects in the TPPS's own organization</i>	<ul style="list-style-type: none"> <li>● Added operations of repacking and rebranding</li> <li>● Deepened insight in customer maintenance behavior</li> <li>● Improved base for pushing service-level agreements</li> <li>● Risk of wrongdoings decreased since orders become more standardized</li> <li>● Timesaving's through more streamlined orders</li> <li>● Enables market companies to focus on selling rather than learning its own offerings</li> <li>● Increased turnover</li> </ul>



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<i>Challenges with implementing spare-part- kits</i>	<ul style="list-style-type: none"><li>● Find a way to take out the price that correspond with the value that the spare-part-kit is providing to the customer</li><li>● Over-including versus Individual kits</li><li>● Affect most internal functions</li><li>● Time-consuming development process</li><li>● Defining responsible/-ility for continuously maintaining, developing and updating the spare-part-kit</li><li>● Establishing agile communication channels between market companies and product owner</li></ul>
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## 5 ANALYSIS

### 5.1 INTRODUCTION

After having gone through relevant theory, examples of businesses that have tried the concept of spare-part-kits as well as internal functions' view on the matter, it is now time to bring the pieces together. In order to fulfill the purpose of the thesis, of investigating how spare-part-kit can affect customer satisfaction, the analysis starts out with the customer followed by a drill down into its relationship with spare-part-kits. Finally a review is made on what aspects that should be considered when implementing the concept. On a basis of this the analysis presented below will therefore aim at investigating the following questions:

- Who are the stakeholders involved in the purchase of spare-parts?
- Why is the concept of spare-part-kits relevant to suppliers of spare-parts?
  - What activities is the customer doing?
  - How could customer satisfaction be increased?
  - How can spare-part-kits affect customer satisfaction?
  - When can spare-part-kits affect customer satisfaction?
  - Which customers will have gain out of spare-part-kits?
- What should be considered when implementing spare-part-kits?

Valuable information for the reader is also that in order to capture and systematize the findings the authors have applied part of Osterwalder's Value Proposition Canvas by continuously defining Pains and Gains. In doing this, the author's hopes to point out aspects regarded as key by TPPS's customers and through this help

TPPS in their future work with spare-part-kits as well as build a base for the conclusion to come.

## 5.2 WHO ARE THE STAKEHOLDERS INVOLVED IN THE PURCHASE OF SPARE-PARTS?

In order to be able to analyse the customer, its needs need to be clearly defined. As stated in the theory chapter the principal-agent relation gives that the principal (in our case the company TPPS have as a customer) have a near impossible challenge in totally transferring its interests to the agent (which in our case could, for example, be a technical manager (TM), production manager (PM) or a purchaser). The principal then, consciously or unconsciously, set up policy instruments in order to try and achieve an as total transfer of principles as possible to the agent.

### *Technical Manager*

The first example is of a TM (the agent) with the responsibility of maintaining the machinery used in a production facility at one of TPPS's customers (the principal). It is the authors' view that it is likely and not farfetched that the principal guides the TM through economic KPIs that aims towards decreasing the overall expenses of the maintenance. The implication of this could be that the TM aims at having an as low cost as possible for purchased items and spare-parts since this becomes the base of the performance measurement. Given this scenario, incitements are created for the TM to question the need for every spare part in the search for savings. The TM's own need might however not fully correlate with this and a good product that stills his/hers needs might just as well have other characteristics than low price. Convenience in handling and installing parts could be assumed to be closer to the TM's own interests. When comparing buying single parts with spare-part-kits, the single parts might in this case better apply to the principal since it opens up for detailed selection and short-term savings. This strategy might however, according to the empirical input to the thesis, create maintenance behaviour with potential impact on the related machinery's performance in terms of up-time and product quality. Neither the principal nor the agent has this in

their interest. Given this, an opportunity opens up for companies such as TPPS in providing their customer with an offer that addresses both stakeholders' needs. Spare-part-kits could then act as a middle ground of levelling the different stakeholders within the customer company, by being the means of showing the principal the impact of correct maintenance from a total cost of ownership perspective. The TM's needs are satisfied by providing a convenient overall solution that helps him/her doing his/hers job more efficiently as well as effective.

*Production Manager*

Looking at a PM, the authors have gotten indications that their respective principal often monitors these by efficiency KPIs such as up time and/or produced product per unit of time. This better correlates with TPPS's suggested approach, but when offering spare-parts as single items the choice becomes unnecessarily technical and troublesome. The needs of the PM have a form, which not conforms to the level of detail in the offer. By offering spare-part-kits to the PM, the offer is aligned with the PM's demand, which then could be expected to lower the amount of effort needed for TPPS to sell spare-parts to the PM.

*Industrial Purchaser*

In both the previous cases the stakeholders have had a relatively close relationship to the actual use of the spare-parts as a consequence to their closeness to the production activities. It might however be an industrial purchaser that has the responsibility to procure the spare-parts needed to a production facility. Aspects of importance to the purchaser are to find suppliers with a product of sufficient quality to a reasonable price. In addition to this, and due to the industrial application of the product, the actual relationship with the supplier and its ability to develop is also of importance. If the procurement of spare-parts is delegated to a purchaser it is the authors' view that the level of technical knowledge regarding the maintenance and what parts that is needed is relatively low. The likely case is, for example, that either a TM or a PM gives a signal of what that should be procured on which the purchaser acts accordingly. In the view of the principal the purchaser solves its

assignment by negotiating a good price and solving the supply of the parts needed. But by having to handle complex orders of several single items instead of a bundle the purchaser is, to a greater extent, exposed to a potentially unnecessary level of detail. The process surrounding the procurement (which in fact is the only relation the purchaser has to the spare-parts) could then potentially be simplified by spare-part-kits due to its streamlining effect on communication. By having only one item to order, instead of approximately 15-25 different parts, therefore eases the purchaser's workload and hence also better applies to its own interests.

*Market Companies*

Depending on the scope both external, as in the examples above, and internal customers could be defined. Turning the gaze inwards into TPPS several supplier-customer relations could be found in the internal value chain. One of the most obvious ones is the relation between the product owners and the market companies. The previously mentioned purchaser could not be anticipated to have a high level of detailed technical knowledge regarding the need for every spare part, and the same goes for the sales representatives working in the market companies. A streamlined offer helps the market companies to be more effective since it lowers the threshold for them when learning to handle and navigate the product range, hence can they focus on building the relationships with the customers. In order to clarify for the reader, Figure 12 shows the principle of a streamlined offer with spare-part-kits.

## Unveiling the power of selling spare-parts as a happy-meal

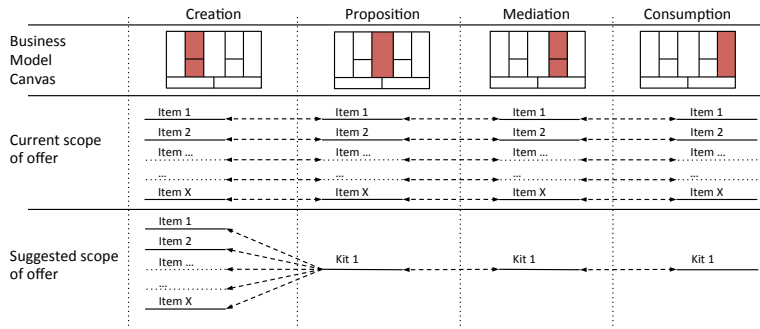


Figure 12: Conceptual visualization of the principle of a streamlined kit offering and its relation to the scope of the thesis (authors' own figure)

### Summary

Either it is one of the four examples above or not it should be interesting for TPPS to look deeper into the principal-agent relationship within each one of its customers. It is namely the author's belief that the process surrounding the purchase, handling and installation of spare-parts applies to the different involved agents' needs why this also should be taken into consideration.

### 5.3 WHY IS THE CONCEPT OF SPARE-PART-KITS RELEVANT TO SUPPLIERS OF SPARE-PARTS?

#### 5.3.1 What activities is the customer doing?

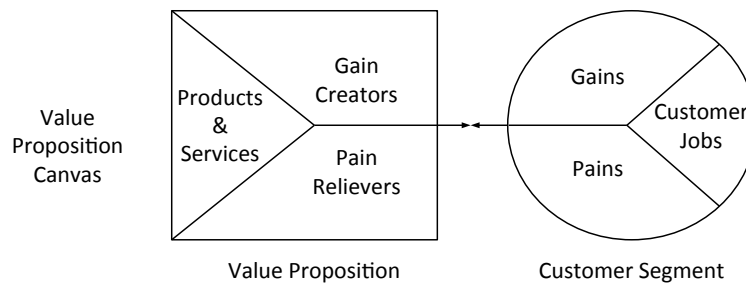


Figure 13: The Value Proposition Canvas as adopted by the authors from Osterwalder (2012)

By following the Value Proposition Canvas, presented in Figure 13, a customer could be analyzed by defining what activities the customer is doing. The customer performs a functional job where TPPS's machines are involved in, which can be producing everything from ice cream to orange juice. If the production is discontinued, the customer fails to fulfill his ability to produce the goods, and the customer job is no longer fulfilled. In order to uphold the continuum in the production, maintenance is done, which helps make sure that the machines' uptime is as long as possible. This need can be broken down into smaller parts, outlining what the customer need at different stages of the process. Based on theory as well as empirical experiences the authors have defined the following stages to be a part of the customer process connected to TPPS's spare-parts:

Customer jobs

1. Realizing need
2. Defining need
3. Procurement
4. Receiving parts
5. Installing/Using parts

The customer first needs to identify that the machine need maintenance. This can be done by continuously monitoring the machine to see any abnormalities in the production capability, by having knowledge of when one or more specific parts needs to be replaced, or become aware through a breakdown. Either which type is used, the customer needs to understand what spare part(s) is/are needed to replace.

When the need of maintenance has been identified, the customer needs to be able to procure the essential material and services to carry out the maintenance. On delivery the customer expects the exact right parts, and to have them delivered on the right time. When delivered, the parts need to be installed, which is usually done by either the customer's own technicians or technicians sent out by TPPS.

### 5.3.2 How could customer satisfaction be increased?

After having identified the customer's activities it is now relevant to see how the satisfaction can be increased, or rather what approach that could be taken. The theory previously presented, indicates that customer satisfaction is based upon expectations and perceived performance.

It is the authors' view that each and every customer is somewhat unique in its characteristics why their respective satisfaction also needs individual attention. Despite this, the authors also see the possibility of having a common and generally applicable approach. By having this TPPS could be able to methodically take on customers with the aim of increasing their satisfaction. Given the theory and empirical data handled, the authors have come up with the customer satisfaction-mapping framework, which is presented in Figure 14. By conducting a systematic analysis of customer satisfaction TPPS are enabled to be conscious and aware of the different aspects, which hence increases its ability to heighten the customers' experience of their offering.

The Expectation theory has been combined with Osterwalder's expressions of Pain and Gain. The vertical axis shows whether the delivered product or service contributes to either a Gain or a Pain to the customer. The scale is relative in nature and the position is determined based on how the customer experience relates to the expectations the customer had on forehand. Looking to the horizontal axis it visualizes the customer process in time, which in this case is suggested to start from when the customer identifies the need of a new spare-part and end with the installation of the parts.



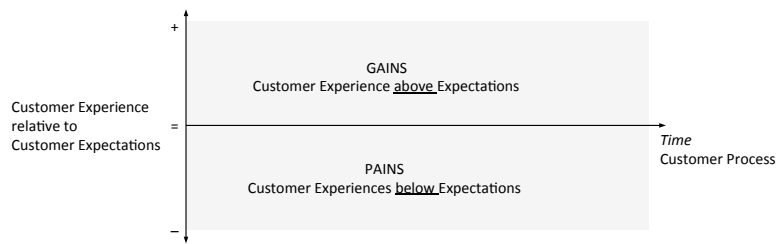


Figure 14: Pain, Gain and Expectation Model based on Oliver's (1980) expectation theory combined with Osterwalder's (2012) alongside the customer process (authors' own figure)

### 5.3.3 How can spare-part-kits increase customer satisfaction?

As mentioned in the theoretical section of the thesis, the relation between expectations and perceived value is the base for satisfaction. What is sought for is an activity that the customer have received low value on and therefore lowered its expectations on, as for example becoming used to a complicated ordering process. If spare-part-kits can increase the perceived value for the customer for those activities, customer satisfaction can be increased.

In other words, if a pain could be transformed to a gain by using spare-part-kits, customers will be more satisfied. Through interviews and theory, the authors have identified the following pains related to the process surrounding spare-parts: (1) Time consumption, (2) Communication, (3) Relationship mistrust and (4) Evaluation difficulties.

#### *Time consumption*

Customers need to put a lot of time into analyzing what parts that are recommended to order and later either contact TPPS over phone and order or, if possible, order them over an online platform. Depending on the size and internal organization of the company, either the procurement division manages this activity, or the responsible person for the specific machine or plant will do it. By putting together spare-part-kits, the customer do not need to purchase the parts one-by-one, and will therefore not need to look at and analyze the recommendations for every order.

*Communication*

As stated above, there are a number of different stakeholders with interest in spare-parts within the customer's organisation among which the level of detailed technical knowledge is assumed to differ. Following this the need of spare-parts needs to be communicated between these stakeholders. Having to communicate complex matters between actors with different levels of relevant experience does, in the authors' opinion, open up for misinterpretations with unnecessary resource spending as a result.

*Relationship mistrust*

Some customers think that TPPS is exaggerating the need of replacing parts, and are therefore unsure about when they need to be replaced. This view might lead to customers acting on their experience or their "gut feeling", which many times results in that the machine does not work properly and parts get worn out more than they are supposed to due to an abrasion misfit.

By introducing kits, TPPS can simplify the process of ordering and make it easier for customers to give input on which parts that last longer or shorter than recommended. In having a working process for continuous development, the recommendation is created in cooperation between TPPS and the customer. The cooperation not only has the potential to simplify the process, but also to at the same time strengthen the trust in the relationship. It eases the relationship with fewer discussions and choices by the customer each time they have to make an order since a common base of decision already being established.

A challenge with the concept could be that the customers have an aversion towards spare-part-kits since it helps diminishing the need for keeping maintenance competence in-house. The more the customer chooses to rely on TPPS in their operation the greater the lock-in effects. This is of course a positive effect for TPPS but it is the authors' view that it might incur an extra round of consideration from the customer.

*Evaluation difficulties*

Today the person who procures the part is often not involved in installing and using the part. It is therefore also hard for the procuring party within the customer company to evaluate the performance of the actual spare-parts. If the value is not apparent for the person who buys the product, he/she will base his/hers satisfaction on other factors, as for example the brand image of the company and the price. The customer namely needs two components to rationally construct the notion of its satisfaction, expectations and the perceived value. Since the spare-parts are hard to evaluate for the responsible purchaser, TPPS loses out on appreciation for their product quality for more intangible circumstance. By using kits, the focus could be withdrawn from the product and instead pointed more towards the process. Therefore the person responsible for procuring the products will have a platform, in the form of the process; to attach its expectations to and base his/hers perceived value on. Therefore it is possible to increase customer satisfaction by focusing on, and develop the process rather than the product.

5.3.4 When can spare-part-kits affect customer satisfaction?

Apart from understanding the different activities involved in the process of maintenance, there are different types of customers working with different maintenance strategies. Customers can either work with preventive or corrective maintenance. Independent of which of the two maintenance strategies the customer applies, the previously defined five stages are valid for both. Figure 15 shows how the five process stages are placed in, and combined with the Customer Satisfaction-mapping framework. To the customers who are already working with a preventive strategy, the spare-part-kits fit well into their strategy and contribute with a more convenient process and handling. For the ones who apply a corrective maintenance strategy, spare-part-kits will provide TPPS with a tool to better insinuate the positive effects of a preventive strategy.

## Unveiling the power of selling spare-parts as a happy-meal

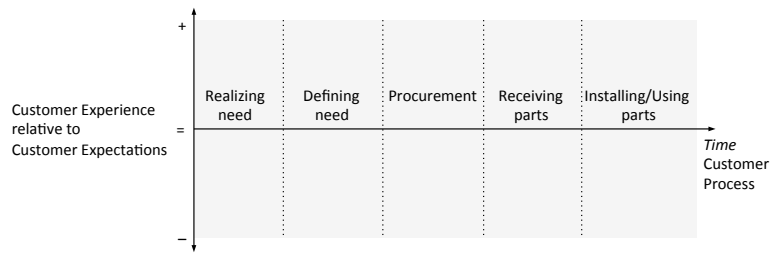


Figure 15: Pain, Gain and Expectation Model combined with the five customer process stages (authors' own figure)

### *Realizing need*

Before ordering a spare-part the customer has to realize that there is need for maintenance. This can be done in different ways:

- The producer of the machine attach information that informs the customer on how often maintenance for specific parts need to be done
- The customer uses his experience to decide on maintenance routines
- The customer monitors the output and look for anomalies that indicate that there is a need for maintenance

The customer can in other words follow TPPS's recommendation, use his own experience or use technology to decide. What TPPS want to do is to have customers that follow their recommendations, since it increases the chance of their machines to work as they are supposed to, which in the long run ought to improve the overall experience of TPPS's machines. One purpose of spare-part-kits is therefore to encourage customers that follow TPPSs recommendations to continue doing so. Another is to sway the customers from using their own experience, or a corrective maintenance approach, to instead adapt to TPPS's recommendations by making it easier to follow these.

### *Defining need*

Once the need is realized comes the stage of defining the need and by breaking it down into exact details. When comparing an

offering-setup containing single spare-parts with one built up by spare-part-kits it becomes obvious that the latter simplifies the work needed in this stage. The concept also follows the principle of Lean Consumption by aligning the offer to the demand.

*Procurement*

As in the previous stage the number of items to be handled is decreased by introducing kits. A simpler offering is easier to communicate, which decreases the risk of miscommunication and costly errors inducing extra administration. The simplified communication also opens up for increased possibilities for both TPPS and the customer of putting extra energy into establishing and/or improving their bilateral relation.

*Receiving parts*

The goods handling functions that intermediates the spare-parts finds no value in handling separate parts instead of kits since it is not within their scope of interest. On the contrary, as summarized SKUs as possible are welcomed since it decreases the number of bins needed, which opens up for, often crucial, space savings in the warehouse. No value coming from the spare-parts are consumed in this stage why it is the authors' view that there also is a substantial potential in helping the customers by creating summarized SKUs.

*Installing/Using parts*

The last stage is the actual use of the spare-parts and with it comes a couple of different aspects that have the potential of increasing the level of customer satisfaction. When installing the spare-parts the technician, both whether being sent out by TPPS or being employed by the customer, need access to the related documentation and manuals for doing the service. Alongside this, a service also includes the need of certain consumables such as for example lubricant. By including this in the spare-part-kits the amount of hassle surrounding the service decreases at the same time as TPPS also gets to be the supplier of the consumables as well.

Besides providing the technician with everything that is needed, spare-part-kits could also, through packaging design and marking, provide extra convenience by arriving in a pedagogical format.

*Summary*

As a summary to this section the authors would like to remind the reader of the six bullet points postulated in the theory of Lean Consumption:

1. Solve the customers problem *completely*
2. Don't waste the customers time
3. Provide exactly *what* the customer want
4. Provide exactly what the customer want, *where* he want it
5. Provide it *when* it's wanted
6. Aggregate the solutions to reduce the consumers time and hassle over time

Although the authors do not find the points number four and five to be within the range of spare-part-kits, since these points rather are a matter for other supply chain management solutions, the rest of the points are well within the range of spare-part-kits. As shown in this section, spare-part-kit has the potential of, among other things, to solve the customers' problem completely and save the customer time by providing it with what they need and therefore want. Spare-part-kits could furthermore aggregate solutions by timely provision of documentation and consumables.

An indirect consequence of this could be that the customer adapts to maintenance behaviour that correlates to the one recommended by TPPS. This can improve the performance of the machinery and hence act positively on the customers' experience of TPPS.

5.3.5 Which customers will have gain out of spare-part-kits?

Although it is stated above that every customer should be analyzed and approached individually, the interviews conducted throughout the thesis have pointed towards the need for a segmentation of the customers. It is the authors' opinion that the use of a segmentation

model does not contradict or inhibit an individual approach since they instead rather support each other than the opposite.

One of the tools used for segmenting TPPS's customers is seen in Figure 16 below. The segmentation model becomes usable when to see which of the customers that would benefit from the customer pains mentioned earlier.

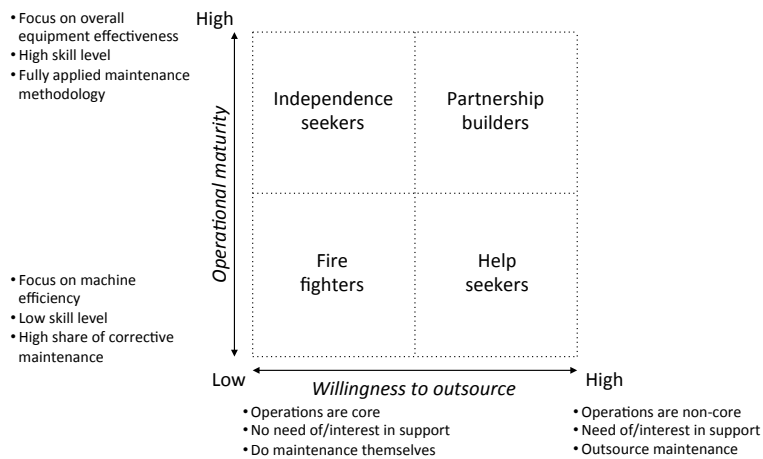


Figure 16: The customer segmentation tool used by TS&S (Lindqvist, 2015)

The earlier mentioned pains were (1) time consumption, (2) communication, (3) mistrust in the relationship and (4) evaluation difficulties. In order to see how each one of the pains impact the four respective customer segments, the latter's will be gone through in order below. The citations are all originating from TPPS's customer segmentation tool presented earlier, which the reader will recognize from the empirical data section.

## Unveiling the power of selling spare-parts as a happy-meal

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### *Independence Seekers*

“FOCUSING ON INTERNAL PROCESSES AND COST OPTIMISATION. MIGHT HAVE THEIR OWN MAINTENANCE SYSTEM AND TEAM. POTENTIALLY INTERESTED IN CONTINUOUS IMPROVEMENT METHODOLOGIES.”

(LINDQVIST, 2015)

This type of customer is believed to enjoy the benefits coming from spare-part-kits mostly regarding the timesaving and improved evaluation possibilities of the surrounding process. The relationship mistrust-factor could however be a challenge since a customer of this sort critically reviews the need of spare-parts based on their high level of competence. If, however, the offering is agile enough to adapt to the exact requirements of customers like this, then there is a great potential of increasing the level of customer satisfaction through spare-part-kits.

### *Partnership Builders*

“LONG TERM VIEW WITH FOCUS ON CORE BUSINESS. INTERESTED IN GUARANTEES AND LOOKING FOR CONVENIENCE, PREDICTABILITY AND PRODUCTIVITY.”

(IBID)

As spare-part-kits helps free up time through its contribution to a streamlined communication, the freed up time could be put in better use by establishing the type of partnership that this type of customer is searching for. An idea that came up in the conducted interviews was the suggestion of offering an extended guarantee to the customers who use spare-part-kits and consequently follows the service recommendations provided by TPPS. Spare-part-kits should all in all add a possibility of deepening the partnership with these customers since the concept goes hand in hand with what they are asking for.



*Fire Fighters*

“USUALLY FOCUSED ON COST WITH LIMITED COMPETENCE IN-HOUSE. RUN-TO-FAILURE APPROACH, PARTS ARE ORDERED UPON NEED. UTILIZATION IS NOT CRITICAL AND OFTEN LOW.” (IBID)

These are the customers who choose a corrective maintenance approach due to a short term cost focus. Since the utilisation of the machinery is often low the corrective approach might however be justified. Although this might be the case, TPPS could use spare-part-kits as an educational offer and with its help convince this type of customers that a planned and preventive approach to service is a good thing. Hence does spare-part-kit have the potential to increase TPPS penetration within this part of the market.

*Help Seekers*

“AWARE OF THEIR OPERATIONAL WEAKNESSES AND OPEN TO SEEK HELP. LACK QUALIFIED RESOURCES, APPRECIATE AND ACKNOWLEDGE THE VALUE OF EXTERNAL SUPPORT. (IBID)

As with Fire Fighters the Help Seekers often also have adapted to a corrective maintenance approach but are in this case aware of the flaws in their strategy. Following this, will spare-part-kits be a welcome offering since it simplifies the decision of what to order, which otherwise would be hard for the Help Seekers due to their lack of competence.

#### **5.4 WHAT SHOULD BE CONSIDERED WHEN IMPLEMENTING SPARE-PART-KITS?**

In order to implement and enable the concept of spare-part-kits, the authors have, based on the empirical and theoretical findings identified the following aspect as important: Strategic focus, Responsibility, Type of kits, Infrastructure, Communication channels and Pricing. These will be gone through and analysed in the mentioned order below.

*Strategic focus*

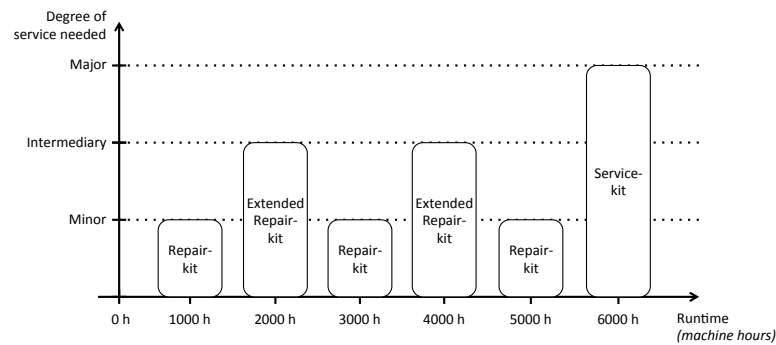
One of the more basic prerequisites for spare-part-kits is a strategic focus that embraces the concept and allows and guides the surrounding organization to adapt. The empirical findings point to that TPPS is a relatively technically focused company whose main focus is to sell its products. The authors do however feel that in order to be able to leverage the potential in servicizing; TPPS should ask themselves if they are aiming at being a service- or a product company. Would the answer be service the authors believe in putting end-customer satisfaction in focus over technical pioneering. Of course should the technical aspect keep its importance but by focusing on the customer TPPS could, through kits, adapt to a “designed for service” concept. This has, in the eyes of the authors, the potential of prolong, deepen and intensify their relationship with their customers.

*Responsibility*

Since the adaption to spare-part-kits have shown to be a time- and resource-consuming process the development of the process should be viewed to have the potential of creating a substantial workload. To cope with and better manage the process the question of responsibility need to be addressed. Since the spare-parts currently lay under the product owners, it might be natural to initially impose the responsibility to these and as the concept gets more defined forward the responsibility to a function exclusive to spare-part-kits. It is the authors' view that the kits will need a higher level of continuous maintenance than the single parts since the kits could be an item needed to update according to customer requests. The authors do not neglect the work needed to update and administrate single spare-parts but as the kits are a combination of spare-parts the actual combination could an item of customer feedback. Given this, the authors feel that it would be a risk to give this enlarged workload to the existing product owner and instead define a new class of product owners responsible for spare-part-kits only.

*Type of kits*

In the thesis several types of kits have been mentioned (e.g. spare-part-kits, virtual kits, over-including kits, customized kits and standard-kits), all having in common to be intended to supply a certain maintenance event with the material needed. The question still lingering is when each one of the kit-types are feasible and when not? To remind the reader of the concept developed by Business Unit 1, their kit-principle is again shown in Figure 17.



**Figure 17: Conceptual visualization of how Business Unit 1 has adopted to the concept of spare-part-kits (Nikolajsen & Klausen Guldborg, 2015) (authors' own figure)**

In this example the kits defined are quite standardized depending on what type of machine they are intended for. The higher levelled kits constitutes of the kits from lower level, which aggregates the need and rationalises the handling and stocking. Applying this concept on the whole of TPPS's product range is in the authors' opinion hard due to the great specification disparity that is present in some of the product categories. Solving it through the so-called over-including kits could bring a rational logistics handling but could also affect the customer satisfaction since not all bought parts could be used with such a kit-setup. Another alternative is to offer fully customized kits to each one of the customers. This scenario does however put extra pressure on both the IT-support as the physical handling of the kits since the kits need to be packed-to-order. As the customized kits will create a large number of

variants a solution could be to keep them as virtual kits up until an order is received from a customer. This since each one of the variants could not be expected to have a high demand why it would be too costly and irrational to have each variant in stock. The virtual kits would then be created upon the event of a customer purchasing new machinery after which that kit would not be active until that exact customer reaches a corresponding maintenance event and hence orders the kit.

#### *Internal infrastructure*

After having decided on what strategic focus to apply, sorted out how to divide the responsibility and what type of kits to use on which level and to which type of machine, an adoption of the internal infrastructure is also needed. Especially the virtual kits, which is mentioned above, burdens the IT-system to a large extent since a large number of new article needs to be defined and incorporated into it. But whichever type is chosen a new type of article is formulated and therefore needs to be integrated into all support systems. Alongside this update of the internal master data the same update also need to reach the customers as well.

Looking at the physical parts of the implementation of spare-part-kits, these urge for an adoption of the packing, stocking and shipping procedures. As in the examined cases the kits adds an operation of repacking and, if found feasible, a rebranding of the products. If virtual kits are chosen these will demand an agile picking process where the kits could be translated from virtual to physical upon the event of an incoming order.

#### *Communication channels*

As this thesis outset in looking at how spare-part-kits can affect a customer's view on a supplier, the customer communication becomes a matter of focus. According to the input the authors have gotten from the market companies these have the feeling that their feedback get a low level of traction backwards in the internal value chain. In order to reach and be able to affect the customer satisfaction with spare-part-kit an effective set of communication channels is crucial according to the authors. The feedback-loop in

question has been visualized in Figure 18. In order for this to work the loop need to be sufficiently responsive so the market companies, and in consequence the customers, can get the feeling of being taken into consideration. The authors think establishing a distinct and efficient link between the internal departments and the actual customers could do this.

As have been mentioned earlier in the analysis, do the authors see a potential of streamlining communication by implementing spare-part-kits. Due to this might the extra pressure put on the internal organisation in establishing new communication channels, be lightened through the communication advantages tied to the spare-part-kit concept.

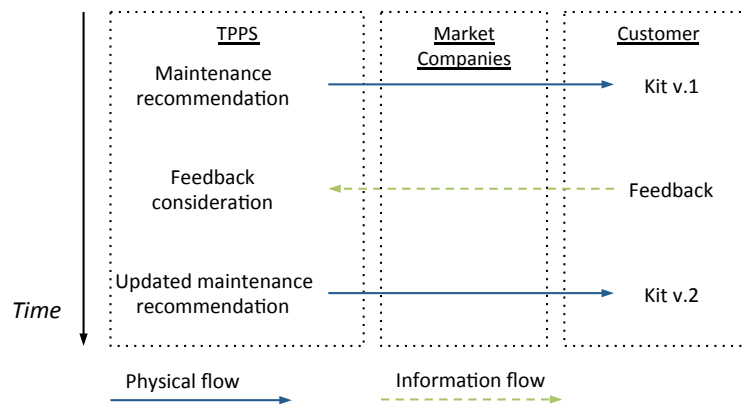


Figure 18: Conceptual visualization of the feedback-loop needed to connect the TPPS internal functions with its customers (authors' own figure)

#### Pricing

The last part that the authors have identified to belong to the implementation of the spare-parts is the question of pricing. Most of the previously implemented spare-part-kits have been priced with a discount compared to the sum of the selling price for its constituent parts. Although this correlates with most of the cases studied by the authors there are some indications towards a

possibility of a non-discounted pricing. This has gotten the authors to reason about what pricing strategies that exists and what factors that have influence on the possibilities of each one of these.

The different variants of pricing identified are differentiated from each other through the relation between the price of the kit and the selling price of the kit's constituent parts. This leads up to three different variants: (1) The kit is cheaper than its constituent parts, (2) the price of the kit and its parts is equal and (3) the kit is more expensive than the parts. The authors have perceived that that market companies appreciate the discounted pricing as this, quite obviously, assists the selling process by offering the customer the same parts but to a cheaper price. It is although in the authors' opinion that the kits could bring extra value to the customer, through the earlier analysed advantages, why the kits also have the potential of being priced without the discount. In other words according to both the value of the constituent parts and the value derived from the offering formulation. The authors have identified five aspects that are believed to influence the possibilities of adapting to either one of the three pricing variants. The five aspects are (1) norms, (2) ability to communicate value, (3) level of standardized vs. customer customized kits, (4) TPPS-unique parts included in the kits and (5) the customer's possibility of comparing the price of the kits to its constituent parts. These will be analysed below in the order of mentioning.

#### Norms

As previous initiatives have been implemented these have, as said, been priced with a discount. Following this is a risk of establishing a norm for the customers of enjoying a discount. It is the authors' view that alongside the customers consolidates the pattern of discount; TPPS's threshold of changing the pattern increases due to the built up historical perception of the pricing. The norms do however also work the other way around by establishing a notion of a non-discounted pricing amongst the customers. Whichever way that is chosen the authors feel that the important takeaway is that the established pricing norm needs to be considered both as a

historical baggage but also as a tool for future strategy implementations.

#### Ability to communicate value

In order for the customer to be able of appreciate the full value of TPPS's products, TPPS also needs to be able to communicate the value to the customers. The authors see possibilities of communication to increase as the offer increases its correlation to the customer needs, as it then will fit into the already established reasoning of the customer. As in most cases, an efficient way of communicating the value is by having previous examples to relate to, which also is supported by input from the market companies. To have a clear customer case that points out the advantages of a concept, preferably in quantitative terms, is therefore a big advantage why the initial selling efforts may be directed towards customer that has a strong potential of posing as a further example.

#### Standardization vs. customer customization

According to the empirical findings it is hard to convince the customer to pay a non-discounted price when not all the delivered parts are used, as might be the case with standardised and over-including kits. The opposite case with customized kits includes an obvious effort from TPPS of analysing and meeting the customer's requirements why this type of kits, in the eyes of the authors, should be easier to price with a premium. A customized variant of kits do however incur a different level of physical administration that might erode the extra margin coming from the premium pricing. Based on this reasoning the question of what kitting-strategy to choose has strategic implications both on the cost structure and flow of revenue.

#### Unique parts

Included in TPPS range of spare-parts are a number of TPPS-unique parts that only could be bought through TPPS. These parts could be used when formulating the kits by prioritize to include a TPPS-unique part in as many kits as possible. By doing this, the demand for the non-unique and unique parts could be tied together, which logically would help to increase the orders placed

to TPPS for the non-unique parts and also the willingness to pay from customer.

Possibility to compare

The customers' access to information regarding the price of constituent parts of a kit also affects the possibilities to price the kits as a whole. The authors regard it as logic that if the customer could compare the price of the parts to the price of the whole kit than the arguments for a non-discounted or premium price needs to be more convincing. This since the customer in that case becomes more aware of the underlying pricing strategy. Whether or not the customers should have access to single part prices could therefore become a key question. By limiting the level of transparency the customers' image of TPPS could be affected negatively by building a notion of TPPS trying to hide something. If, however, the value of the kits is properly communicated the spare-part-kit alternative might become such an obvious choice that the demand for a broken-down price list diminishes. The authors see the choice of strategy to partly depend on what type of customer that is in focus but also see the possibility of TPPS addressing all needs by adapting to an approach of virtual and fully customized kits.



## 6 CONCLUSION

### 6.1 INTRODUCTION

In this chapter the reader can find the answers to the three research questions, which help to fulfil the purpose of the thesis:

“INVESTIGATE HOW A COMPANY CAN BECOME A MORE ATTRACTIVE SUPPLIER OF SPARE-PARTS BY OFFERING THESE IN SPARE-PART-KITS.”

The authors can, based on the above presented data and analysis; conclude that spare-part-kits can provide additional value for customers. However, in order to add value, certain aspects need to be considered and the added value can be of different size and form depending on the customer. The conclusions are presented in the following sections, structured as the research questions were presented in the introductory chapter.

### 6.2 WHO ARE THE STAKEHOLDERS INVOLVED IN THE PURCHASE OF SPARE-PARTS?

The most central conclusion is, that a company that is selling spare-parts, must pay attention and identify what stakeholders that are interested in the purchase of the parts. In one organization, the purchaser may hold the power, over which supplier to use, based on the KPIs that the purchaser is measured on. In another organization, the technical manager holds the power, based on another set of KPI's. By analysing and understanding the dynamics behind the decisions, a supplier could gain a better understanding of *who* is having *what* needs and, consequently, *how* to address the actual needs of the customer. Spare-part-kits are believed to create a more homogeneous customer that can be addressed with an increased efficiency and effectiveness through an offer which better correlates and fits with the customer's overall needs.

### **6.3 WHY IS THE CONCEPT OF SPARE-PART-KITS RELEVANT TO SUPPLIERS OF SPARE-PARTS?**

When the different stakeholders of the customer are identified, the company can use spare-part-kits to increase the customers' satisfaction, and in that way increase their sales of spare-parts. Every customer is different and has different preferences from which they base their satisfaction on. Spare-part-kits are an obvious choice for customers using preventive maintenance, due to that they simplify a process that the customer is already using. However, the spare-part-kits can also be used to show the value of preventive maintenance for customers currently using a corrective strategy.

By breaking down the process a customer need to go through to buy and use spare-parts, and compare this to what spare-part-kits can provide - four areas have been found where customer satisfaction can be increased through spare-part-kits:

#### **6.3.1 Time consumption**

Today the customer is spending time on activities, which could be done by the supplier. First, the customers need to analyze each maintenance occasion, to see what spare-parts that are needed. The technician responsible for the installation of the parts also needs to collect the spare-parts and understand which parts that should be replaced. By offering spare-part-kits, the customer would enjoy simplified administration, handling and maintenance procedures, and therefore experience an increased satisfaction in this aspect.

#### **6.3.2 Communication**

Since every customer consists of a number of employees, the interests in which spare-parts to purchase and from whom, may differ. This is also reflected in the fact that different employees are measured on different KPI's. By introducing spare-part-kits, the customer will be provided with a platform that can be used internally for communicating between the stakeholders. By using the spare-part-kit, the employee responsible for technical details, can collaborate with the person responsible for the overall

production efficiency and in that way align their interest both internally and towards the supplier. Furthermore, the spare-part-kits allow the employee who sells the spare-parts to reduce the number of articles, and therefore easier grasp the product assortment offered to the customers, enabling a greater effort on building a relationship with the customer.

#### 6.3.3 Relationship mistrust

If a customer do not follow the given maintenance recommendations for a machine, it is most likely because the supplier is not trusted with their maintenance proposals. The customer may believe that the supplier is exaggerating the recommendations, which create mistrust in the relationship. By offering spare-part-kits as a platform for collaboration, the customer and supplier can collaborate to put together the maintenance recommendations. By collaborating, the trust between the parties can be increased, making the customer more prone to follow the recommendations and in the end becoming more satisfied.

#### 6.3.4 Evaluation difficulties

Since spare-parts most often are bought by one employee and used by another, the satisfaction of the product is not always communicated to the person in charge of choosing supplier of spare-parts. It can even be so, that the person uses the spare-part, does not regard the product as important, and therefore do not have a notion of its quality and usage characteristics. The spare-part is seen as a necessity, making customer satisfaction based on quality powerless. Consequently, the satisfaction of spare-parts may in some cases not be based on the quality of the product, but more intangible factors such as the brand image of the supplier. By introducing spare-part-kits, the customer is given the ability to see how the process of ordering products can improve, and thus base their satisfaction on the process surrounding the products, rather than the quality of the products themselves.

## **6.4 WHAT SHOULD BE CONSIDERED WHEN IMPLEMENTING SPARE-PART-KITS?**

The authors have identified six areas important to consider when taking the step to implement the concept of spare-part-kits.

### **6.4.1 Strategic focus**

One of the predicted head pillars of successfully implementing spare-part-kits is the condition of the overall organizational focus. For the specific case-company, which have had a history of being focused on their technical competences rather customer value through providing aftersales service, this become especially apparent. Either a company have a focus on providing services, or in providing products. To acquire the needed support of the spare-part-kit program, important stakeholders need to be included to unlock the needed resources.

### **6.4.2 Responsibility**

All of the previous examples of spare-part-kits include responsible person for the spare-part-kits in general, as well as responsible employees for each sub division of the spare-part-kits, which, for example, could be segmented per machine or per geographical area.

### **6.4.3 Type of kits**

The spare-part-kits should be put together no sooner than when the customer have placed its order. By doing so, no excess storage is needed. These kits can be referred to as “virtual spare-part-kits”, which only exists in the interface between the customer and the supplier and are not stored by the supplier.

Furthermore, the spare-part-kits are more or less suited for a customer, depending on which machine that is considered. The supplier need to investigate both the way that customers are ordering their spare-part-kits, as well as how suited the specific machine and its maintenance processes are to the spare-part-kits.

#### 6.4.4 Infrastructure

For the spare-part-kits initiatives to be functioning, a surrounding infrastructure is needed. This infrastructure will support the order handling in terms of both the IT-infrastructure that is needed to both place orders for the customers, as to adjust the maintenance recommendations. Furthermore a physical infrastructure is needed to handle the packing and outbound deliveries of the spare-part-kits.

#### 6.4.5 Communication channels

A crucial point in becoming a service-focused company is to have a clear connection to the market in the sense that the internal functions should be able to react to changes in customer needs with agility. In order for this to be possible, communication channels needs to be established, stretching from the internal functions administrating the value proposition, via the market-companies out to the end-customer. When doing this, a base is created for meeting the customers' needs with higher precision, which according to the findings in this thesis lead to TPPS becoming a more attractive supplier.

#### 6.4.6 Pricing

The pricing of the spare-part-kits can either be below, at the same level or above the prices for the sum of the parts. Spare-part-kits can be defined as a product-bundle, which is a way of combining products in a way that they provide additional value for the customer. By using this logic, the supplier have put additional value into the spare-part-kit, and therefore the kit should be priced at a higher price than the separate parts, however there are different forces that are affecting the price that can be set.

It is recommended that the price of a spare-part-kit should be based on five factors. The first factor is how strong the norms are for the specific customer or industry, do they expect that a spare-part-kit should be priced lower than the parts, or not? The second factor is regarding the supplier's ability to communicate the value that the customer can get from the spare-part-kit, the better the

### Unveiling the power of selling spare-parts as a happy-meal

higher the potential price. The third factor is regarding how standardized or customized the spare-part-kit is for the specific customer, the higher customization, and the higher potential price. The fourth factor is depending on if the spare-part-kit involves any unique spare-parts that only the supplier can produce, if any parts of such character are included, there is a potential of taking a higher price. The last and fifth factor is how well the customer is able to compare the price of the spare-part-kit with the prices of the individual parts, the less chance the customer have to compare the prices, the higher the freedom for a supplier to set the price.

## 7 DISCUSSION

### 7.1 IMPLICATIONS

This study has covered a concept called spare-part-kits, which in the scope of the thesis aims to show how the sales of spare-parts for one manufacturer of industrial machines can be increased. However, looking at the spare-part-kits as a concept, it is only a way of adapting a business model to what the customers are currently demanding. And taking even a step further back, it becomes clear that this is a movement where the business context is changing toward a more collaborative and simplified way of doing business. Our world is filled with complexity, which surrounds basic needs, and we have to use tools every day to manage this complexity. However, before we look at the grand perspective, we can take a closer look on how spare-part-kits will affect the future closes to us right now.

Spare-part-kits are a way of strengthening the relationship between a customer and a supplier of spare-parts. The reason to why the relationship between the parties is not stronger than it is today, may be because of both parties have adapted their organization to an old way of doing business. Focus should instead be on collaborative tasks that help avoid a sub-optimized way of doing business.

The authors see the focus as shifting from selling products, to improving the processes between the companies. Suppliers need to understand their customer, it is no longer enough to create superior products, but the products must also land in the customers' hands in a convenient way. By introducing spare-part-kits, companies may get a tool they can use to, little by little, improve the relationships with the customer and start to adapt the organizations to a more collaborative way of working. This also means that the supplier cannot only have a relationship with one employee in the company, but can be benefited from working with the company more as an

account. All to get a better understanding of which parts of the customer company that have interest in their interface, and make the offering fit accordingly. So in the next future closer relationships between suppliers and customers, more spare-part-kits, more service-agreements and tighter knitted relationships based on collaboration might be trending.

Looking even further, a large shift in how business is made might develop. As before mentioned, the focus is currently drawn from the product toward the process, but added to this, the focus can be drawn even more from the product towards becoming a service. The customer does not only want to buy the product in a simple manner (process) but also want to have freedom of choice (service). The previous way of selling products have since a long time back been based on mistrust, where the seller have tried to find ways to lock the customer into their offer, and the customer have looked for ways to escape lock-in effects. This is exactly what has been seen lately in the telecom business in Sweden, where the operators previously tried to lock-in their customers into expensive carrier plans, making them forced to stay with the company for several years. However, this strategy backfired when one carrier decided to change their way of doing business and opened up for customers to come and go as they pleased. This resulted in the market currently facing diminishing margins, with customers leaving the operators who have not nurtured their relationships with their customers. This case is evident for other industries and the history will most likely repeat itself. The companies who realize that this shift is happening, who will understand the value of having customers who are with them because of their free choice, will be the winners in the end.

## **7.2 INTERPRETATION OF THE RESULT**

As previously mentioned this study should be seen as a pre-study to understand the potential for spare-part-kits in terms of its potential to increase sales of spare-parts. The upside of doing such a study is that the authors have touched upon multiple interfaces in the



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organization, which have resulted in more universal opinions compared to a more detailed study. This gives both the case company and future researchers the ability to quickly grasp how spare-part-kits can affect both customers and the organization supplying spare-parts, and complement this knowledge with more specific studies.

## **8 SUGGESTIONS FOR FUTURE STUDIES**

The thesis has given an indication for how the case company should proceed with the implementation of the spare-part-kits. Beside this, the thesis will give room for questions to be answered by future scholars, with a number of interesting sections that need further studies.

Spare-part-kits give suppliers and customers a tool to work with in order to increase the way they collaborate. The authors therefore believe that further studies can be done on how collaboration is connected to customer satisfaction, to find ways to tweak spare-part-kits and similar tools in a way to enhance valuable collaboration. Furthermore collaboration and communication can be studied in other context, as of how the organization itself can gain from having a tool, which can be used to improve communication between for example R&D, market offices and customers.

One other aspect that needs to be studied more thoroughly is how the customers would value spare-part-kits in terms of willingness to pay. The customers operations need to be analysed in more detail, to get a quantitative base of what value that is brought to the customer and how this could be translated into willingness to pay. This could provide companies an understanding of how to do their segmenting, and therefore understand which of their segments to put more effort in when introducing spare-part-kits.

The authors also believe that there is more to be done to the five factors that affect the pricing of spare-part-kits. Spare-part-kits should essentially be priced higher than the individual parts, since the company is putting value into the spare-part-kit that the customer is receiving. Therefore it is counterintuitive to price the spare-part-kit lower than the parts. By understanding the customer and what makes the customer pay more or less for the products, a

### Unveiling the power of selling spare-parts as a happy-meal

company can formulate their offering accordingly to provide largest possible value and also be able to charge for it.

Furthermore needs the spare-part-kits to be analysed in a more practical manner. By analysing the total cost of implementing spare-part-kits, the operational cost and the potential increased revenues from the concept, a company can make a more well-based decision on whether to implement the spare-part-kits or not.

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## 10 APPENDIX

### 10.1 APPENDIX 1: THE BUSINESS MODEL CANVAS

The business model canvas consists of nine blocks (presented in Figure 19) that together creates a base from which one can systematize a business model. Although the model seems non-complicated this property also is a great part of what gives the model its power. This since it is a general tool to create a breakdown-structure of any type of business model. Once defined the nine-block canvas helps simplify communication, analysis and development of the business model.

### Business Model Canvas

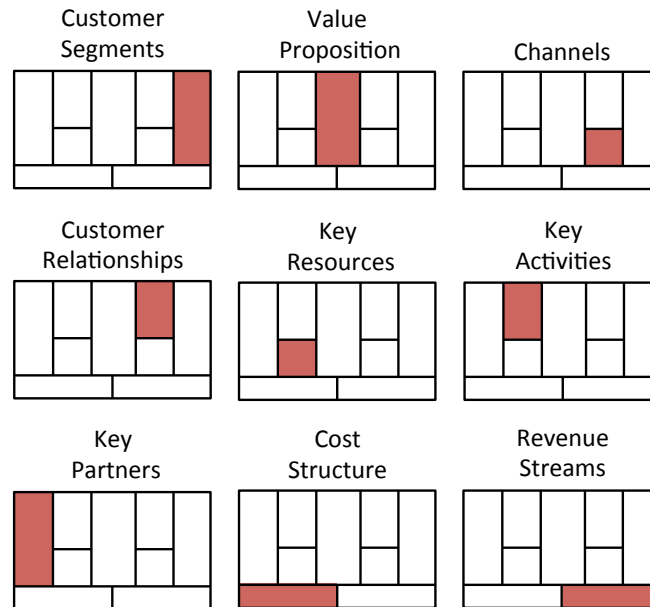


Figure 19: The full Business Model Canvas as adopted by the authors from Osterwalder & Pigneur (2010)



### 10.1.1 Customer Segments

Without the customers every business model will eventually fail, why it is of outmost importance to stay in tune with theses' needs and define ones' offer accordingly. At a start the number of customers might be small and it could be quite easy to give each one of the customers a specialized treatment. But as customers, hopefully, grow in numbers so might also the disparities among them. As this happens it could be become hard to keep track of, and meet the needs of the customers. In order to still keep a precision in ones' offer it is therefore important to analyze the customer base and search for defining any customer segments. Once defined each company should decide on what segments to aim for. All in order to get a well-defined customer base and a clear picture of what needs to fulfill and through that create a competitive advantage.

Aspects that build a customer segment are according to Osterwalder & Pigneur (2010) customers:

- Whose needs require and justify a distinct offer
- That are reached through different distribution channels
- That require different types of relationships
- That have substantially different profitability
- That is willing to pay for different aspects of the offer

**Table 3: Questions and examples relevant to Customer Segments**

Relevant questions	Examples of Customer Segments
<ul style="list-style-type: none"> <li>• For whom are we creating value?</li> <li>• Who are our most important customers?</li> </ul>	<ul style="list-style-type: none"> <li>• Mass market</li> <li>• Segmented</li> <li>• Diversified</li> <li>• Multi-sided markets</li> </ul>

### 10.1.2 Value Proposition

The Value Proposition (VP) is the offer that a company offers to its customers and consists of products, services or a mix of both. For the VP to be successful it should satisfy a customer segment's

needs and have something differentiating relative to the VP of competitors.

**Table 4: Questions and examples relevant to Value Proposition**

Relevant questions	Examples of Value Propositions categories
<ul style="list-style-type: none"> <li>• What values are delivered to the customer?</li> <li>• Which one of the customer's problems is addressed?</li> <li>• Which customer needs are satisfied?</li> <li>• What bundles of products and services are offered to each customer segment?</li> </ul>	<ul style="list-style-type: none"> <li>• Performance</li> <li>• Customization</li> <li>• "Getting the job done"</li> <li>• Brand/Status</li> <li>• Cost reduction</li> <li>• Risk reduction</li> <li>• Convenience</li> </ul>

### 10.1.3 Channels

The channels define the interface with the customer in terms of communication, distribution and sales, which altogether form the customer experience.

Osterwalder & Pigneur (2010) states that channels serve several functions, including:

- Raising awareness among customers about a company's products and services
- Helping customers evaluate a company's Value Proposition
- Allowing customers to purchase specific products and services
- Delivering a Value Proposition to customers
- Providing post-purchase customer support

Table 5: Questions and examples relevant to Channels

Relevant questions	Examples of Channels
<ul style="list-style-type: none"><li>• Through which Channels do our Customer Segments want to be reached?</li><li>• How are we reaching them now?</li><li>• How are our Channels integrated?</li><li>• How are we integrating them with our customer routines?</li></ul>	<ul style="list-style-type: none"><li>• Sales force</li><li>• Web sales</li><li>• Own stores</li><li>• Partner stores</li><li>• Wholesaler</li></ul>

#### 10.1.4 Customer Relationships

As with the other building blocks in the model this could be defined in several ways. The key point is however that the decision is made consciously and in respect to the picture drawn by the eight other blocks.

**Table 6: Questions and examples relevant to Customer Relationships**

Relevant questions	Examples of Customer Relationships
<ul style="list-style-type: none"> <li>• What type of relationship does each of our Customer Segments expect us to establish and maintain with them?</li> <li>• Which ones have we established?</li> <li>• How costly are they?</li> <li>• How are they integrated with the rest of our business model?</li> </ul>	<ul style="list-style-type: none"> <li>• Personal assistance</li> <li>• Self-service</li> <li>• Automated service</li> <li>• Co-creation</li> </ul>

#### 10.1.5 Key Resources

The means needed to create and offer the Value Proposition are called Key Resources to which the company's success depends on.

**Table 7: Questions and examples relevant to Key Resources**

Relevant questions	Examples of Key Resources categories
<ul style="list-style-type: none"> <li>• What Key Resources do our Value Propositions, Distribution Channels, Customer Relationships and Revenue Streams require?</li> </ul>	<ul style="list-style-type: none"> <li>• Physical</li> <li>• Intellectual</li> <li>• Human</li> <li>• Financial</li> </ul>

### 10.1.6 Key Activities

In the same way as the Key Resources was needed to create and offer a company's Value Propositions, Key Activities are as crucial to a successful business.

**Table 8: Questions and examples relevant to Key Activities**

Relevant questions	Examples of Key Activities categories
<ul style="list-style-type: none"> <li>• What Key Activities do our Value Propositions, Distribution Channels, Customer Relationships and Revenue Streams require?</li> </ul>	<ul style="list-style-type: none"> <li>• Production</li> <li>• Problem Solving</li> <li>• Platform/Network</li> </ul>

### 10.1.7 Key Partnerships

The same analogy as in the two previous blocks applies to Key Partnerships as well as these are defined as needed in order to establish a competitive market position and a sustainable business.

**Table 9: Questions and examples relevant to Key Partnerships**

Relevant questions	Examples of Key Partnerships categories
<ul style="list-style-type: none"> <li>• Who are our Key Partners?</li> <li>• Who are our key suppliers?</li> <li>• Which Key Resources are we acquiring from partners?</li> <li>• Which Key Activities do partners perform?</li> </ul>	<ul style="list-style-type: none"> <li>• Optimization and economy of scale</li> <li>• Reduction of risk and uncertainty</li> <li>• Acquisition of particular resources and activities</li> </ul>

#### 10.1.8 Cost Structure

This block relates greatly to Key Resources, Key Activities and Key Partnerships since all these induce costs that must be covered in order to succeed in keeping the business going. All business should in general aim for minimizing its costs but it could.

**Table 10: Questions and examples relevant to Cost Structures**

Relevant questions	Examples of Cost Structures
<ul style="list-style-type: none"><li>• What are the most important costs inherent in our business model?</li><li>• Which Key Resources and Key Activities are most expensive?</li></ul>	<ul style="list-style-type: none"><li>• Fixed costs</li><li>• Variable costs</li><li>• Economies of scale and/or scope</li></ul>

#### 10.1.9 Revenue Streams

If the customers are the source of ingoing value to a company then the Revenue Streams are the actual flow of value into and within the company.

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Table 11: Questions and examples relevant to Revenue Streams

Relevant questions	Examples of Revenue Streams
<ul style="list-style-type: none"><li>• For what value are our customers really willing to pay?</li><li>• For what do they currently pay?</li><li>• How are they currently paying?</li><li>• How would they prefer to pay?</li><li>• How much does each Revenue Stream contribute to overall revenues?</li></ul>	<ul style="list-style-type: none"><li>• Asset sale</li><li>• Usage fee</li><li>• Subscription fee</li><li>• Lending/Renting/Leasing</li><li>• Licensing</li></ul>

## 10.2 APPENDIX 2: THE VALUE PROPOSITION CANVAS

A development, or rather an extension, of the Business Model Canvas (BMC) is the Value Proposition Canvas (VPC) (Osterwalder, 2012), presented in Figure 20. The VPC elaborates on the meaning of the two BMC-blocks Value Proposition (VP) and Customer Segment (CS) by fractionating each one of the two blocks. With the help of the new fractions Osterwalder (2012) have also developed a methodology for correlating the VP with the CS. It all starts by fully defining the CS before moving on defining the VP. By doing this, the customer's needs stays in focus and the time spent on developing the VP is therefore also time spent on something with a base in the market. Defining the CS opens up for the possibility of consciously adjusting the VP in order to find a fit.

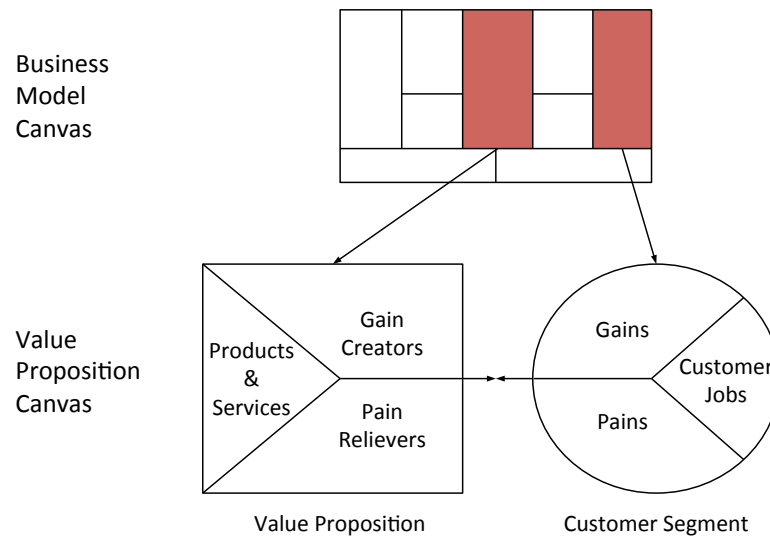


Figure 20: Osterwalder's (2012) Value Proposition Canvas and its relation to the Business Model Canvas (Osterwalder & Pigneur, 2010) (authors' own figure)



### 10.2.1 Customer Jobs

Through looking at the activities and jobs conducted by the customer, one could create a customer profile. By doing this, the customer needs are framed and therefore more easily be addressed.

Questions to be asked in relation to this are:

- What functional, social and emotional jobs is your customer trying to get done?
- What basic needs is your customer trying to satisfy?

### 10.2.2 Pains & Gains

The next two parts making up the Customer Segment-block is Pains and Gains, which are closely related by being opposite sides of the same coin. The authors have, in order to conceptualize and define Pains and Gains come up with the concept shown in Figure 21.

Based on Osterwalder's (2012) definition, Figure 21 shows Pains as being customer experiences that does not live up to its expectations. Following the same principle, Gains becomes experiences that exceed the customer's expectations. Once both categories' respective lists are defined they should be ranked in respect to believed importance for the customer.

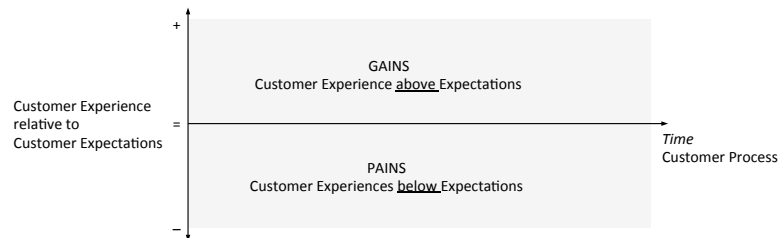


Figure 21: Pain, Gain and Expectation Model based on Oliver's (1980) expectation theory combined with Osterwalder's (2012) alongside the customer process (authors' own figure)

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Examples of question to be asked when trying to define the potential Pains and Gains of a customer are listed in Table 12 below.

**Table 12: Relevant questions when searching to reveal Pains and Gains**

Pains	Gains
<ul style="list-style-type: none"> <li>• What does the customer find too costly?</li> <li>• What makes the customer feel bad?</li> <li>• How are current solutions underperforming for the customer?</li> <li>• What are the main difficulties and challenges the customer encounters?</li> <li>• What risks does the customer fear?</li> <li>• What is keeping the customer awake at night?</li> <li>• What common mistakes does the customer make?</li> <li>• What barriers are keeping the customer from adopting solutions?</li> </ul>	<ul style="list-style-type: none"> <li>• Which savings would make the customer happy?</li> <li>• What outcomes does the customer expect and what would go beyond its expectations?</li> <li>• How do current solutions delight the customer?</li> <li>• What would make the customer's job or life easier?</li> <li>• What positive social consequences does the customer desire?</li> <li>• What are the customers looking for?</li> <li>• How does the customer measure success and failure?</li> <li>• What would increase the likelihood of adopting a solution?</li> </ul>

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### 10.2.3 Products & Services

These parts relates to what type of products and services that one could offer in order to satisfy the needs of the customers and help them doing their job(s).

### 10.2.4 Pain Relievers & Gain Creators

With the customer needs defined together with the own products and services it remains to list how the latter could be used to either relieve pains and/or create gains for the customer. Examples of questions to be asked in this stage are listed in Table 13.

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Table 13: Relevant questions when searching to reveal Pain Relievers and Gain Creators

Pain Relievers	Gain Creators
<p>Could the products and services...</p> <ul style="list-style-type: none"> <li>• ...produce savings?</li> <li>• ... make the customers feel better?</li> <li>• ...fix underperforming solutions?</li> <li>• ...put an end to difficulties and challenges the customer encounters?</li> <li>• ...wipe out negative social consequences the customer encounters or fears?</li> <li>• ...eliminate risks the customer fears?</li> <li>• ...help the customer better sleep at night?</li> <li>• ...limit or eradicate common mistakes the customer makes?</li> <li>• ...get rid of barriers that are keeping the customer from adopting solutions?</li> </ul>	<p>Could the products and services...</p> <ul style="list-style-type: none"> <li>• ...create savings that make the customer happy?</li> <li>• ... produce outcomes the customer expects or that go beyond their expectations?</li> <li>• ...copy or outperform current solutions that delight the customer?</li> <li>• ...make the customer's job or life easier?</li> <li>• ...create positive social consequences that the customer desires?</li> <li>• ...do something the customer is looking for?</li> <li>• ...fulfill something the customer is dreaming about?</li> <li>• ...produce positive outcomes matching the customer's success and failure criteria?</li> <li>• ...help make adoption easier?</li> </ul>

### 10.3 APPENDIX 3: MARKET COMPANIES QUESTIONNAIRE

#### 10.3.1 Comments

In my opinion the advantages of SK are:

- One package, One part no. for complete service event, it means saving time of customer (easy to find , easy to use , easy to record, easy to store, ...)
- This technique pushes the customer to do service according to TP recommendation.

It is one package, one part no., no way to return back some parts to store (It will affect on storing system), so he has to use the complete kit,

In this case it will affect positively in selling spare parts.

- Saving time and more accurate for customer to calculate service budget.
- Price is lower than if customer wants to buy each part separately.

Note:

The challenge which has to be taken in our consideration is Numbering system of each part in SK should be clear, stable and according to drawing in Tem.

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This is my comments so far I do not have so much processing experience but 20+ in packaging, and 9 month now in the GMEA cluster driving change towards customers promoting preventive maintenance and service agreement deployment.

#### 10.3.2 Questions & Answers

The questions included in the questionnaire are presented in black and the answers in red.

##### *Customers*

- How would, or does, the customers perceive service-kits?
  - The only Service Kits we have today are for THE and Tetra Centri and are perceived very well in most of the cases. What customers and Market

Area need is to have flexibility in terms of modifying the content of the kit according to the experience we get at the field. For example, some intermediate kits for Tetra Centri don't include inlet seal and some o-rings and every time we perform maintenance we need to remember to also bring this parts with us separately..., despite this has been informed to Alfa Laval in many cases, they never adapted the content of the kit.

- Really good when the service kit include all spares needed, no less no more. Always we can improve.
  - Some like the convenience others do not like it when they have extra Parts in the kits not used and they cannot return the extra.
  - In general customers prefer kits, I often hear “Alfa Laval offers service kits, why not Tetra Pak”,
  - Service kits are perceived as complete solutions for preventive maintenance proposes.
  - Cheese E&D has only at this time an HCV (Horizontal Cheese Vat) & YMV (Yield Master Vat) service level agreements
  - In most of the cases they like the concept.
  - Quite positive
  - Secured critical items needed for specific service to be securely changed when needed
  - It's convenient and fast. Don't need to find the spare part one by one; one number can solve all replacement spare parts.
  - The customer perceive the kit in the beginning with precaution and then after explanation and especially when he calculating the price difference he agreed
- In general, what do the customers value except price?
    - Order Simplicity
    - Normally a service kit has good price comparing with separately parts.
    - 1 part number for rebuild versus multiple numbers

## Unveiling the power of selling spare-parts as a happy-meal

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- 20-25% of the individual parts, This would make us more competitive against pirates
- Customer values availability (time delivery) and quality (genuine parts).
- Reliability and correct parts.
- Less administrative work since it is only one piece to handle
- They reduce the possibility of missing parts when used.
- Easy to order, easy to use, easy to manage in spare parts store.
- Easy to order, should save time, includes critical items to be mandatory replaced
- It is simple and clear and would be to save time.
- Don't need a professional, save training costs.
- The spare parts inventory management convenient.
- The customer appreciate the price
- Do you have any idea of how big of a portion among the customers that have a preventive respectively a corrective maintenance strategy?
  - In Southern Cone, for Processing Equipment, I'd say that around 35%
  - No Idea.
  - No
  - They all say they have a preventive strategy, but in practice 50/50
  - Roughly 25% preventive and 75% corrective, respectively.
  - Down time is very limited on vats & towers, none on belts.
  - Colombia/ Peru/Ecuador/Bolivia: 30 preventive/ 70 corrective
  - Venezuela: 5 preventive/95 corrective
  - 70 % preventive, 30% corrective.
  - Depends on regions and maturity of market and customer type. Globally, 50% preventive / 20%

corrective / 30% both. All global account have preventive maintenance in their maintenance strategy well established. For packaging more than for processing as considered less complicated. Most of customer in Egypt for example do not have clear maintenance strategy. If you ask of course but in reality it's different

- Almost all of the customers have its own set of maintenance strategy.
- When customers to build a new factory now, will prepare maintenance plan and establish the spare parts safety stock in advance.
- The customer statistics show that in my market company only one customer respect correctly the preventative maintenance procedures and have a strategy on it, other they started after several and many convincing meetings
- Have their ordering process become easier?
  - Alternative ordering channels from “sending a mail with the PO”, are not in use by many customers in this Market Area
  - So easy, only one number
  - Some yes
  - Not with the most of customers.
  - No, with SAP we have lost most all of past history with parts.
  - No.
    - i. In many cases we have detected parts that should be included as part of the service kit but since they are not they need to purchase them separately each time
    - ii. Or the opposite extra parts that are not needed and can not be handle as return and also it normally confuses the customer regarding the reason of why Tetra Pak is stocking them if several times they have informed about the extra spares



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- Yes
- They all ready mentioned that and the backup eco from the their technical staff show that too
- Increased use of standardized ordering channels (e.g. e-business)?
  - Having only one number no support to quote separately parts is needed, despite the customer has technical manual, frequently asks for help.
  - Not very much in US/CA
  - Not with the most of customers.
  - Rockford has an understanding of cross referencing existing parts
  - Colombia: No. Since the local currency is not USD but Colombia pesos so the price for each part when ordered through SAP is not the same as the one that will be invoice and for most of the customer this represent a miss match that can not be justified in their internal audit process.
  - Venezuela: No, it is not. There are many other issues in ordering process for Venezuela that this topic is not relevant for standardized ordering process. This system can not even apply do to the reality of the country.
  - EC & PE: No. Customers perceive no value in the process, they have their own internal systems that will no export information to SAP platform so at the end for them is extra work. Also there is an issue with the parts replacements so customer gets mix up information
  - Yes
  - Globally in our cluster ebusiness penetration is at 70%. Only Maghreb is

- below 40% all others markets above 80% and close to 90 in East & West Africa!
- Yes. Most of the spare parts are the easy to order. In particular, the Alfa Laval's spare parts.
- But some of the spare parts, it's not have the spare part number or can't book from the e-business system, especially not commonly used, or parts of the supply of spare parts is a third party.
- Actually they still using the normal way of ordering
- Other values for the customers?
  - Warehouse Handling, Labour hours effectiveness
  - Faster, shipper, easier and probably short time to deliver.
  - Customers like the simplicity if the kits are correct and have all the o-rings marked and labeled.
  - Ease of ordering one part number versus 50.
  - Easy to order since the service kit means a single part number.
  - Updated manuals with SAP part numbers.
  - No
  - easy to use, easy to manage in spare parts store.
  - Purchasing cycle is short;
  - Easy to query, including spare parts inventory, price, ordering process;
  - Reduce the delivery time once all parts are ready in one case
  - Avoid the human error of wrong parts ref ordering
  - Follow the maintenance steps when the technician give back the replaced parts
  - Gain on price
  - Simplify the spare part stock management

Overalls

- How would you as a market company “representative” value being able to offer new service-kits for i.e. Separators, Homogenizers and Spiraflo equipment?
  - If the kits were complete and covered the different areas of the Homogenizer separately (wet-end, Piston Cartridge, Homogenizing Heads) and their many options (Materials, Dimensions, Aseptic/non Aseptic, etc) properly just by informing the Serial Number to Sweden, I think that very good and would bring value to customers
  - It would reduce time to quote and simplify the customer order with only one number. The accuracy in the service kit content will be very important, for homogenizers have to be a lot of combinations.
  - Would be nice to offer the kits for homogenizer and H.E. as many have incorrect parts or not enough stock levels.
  - I have been asking for Homogenizer kits for many years, this would be the right step forward for Tetra Pak.
  - It would be valuable to increase the product portfolio solutions.
  - Correct updated spare part numbers for old/existing Cheese Equipment
  - It could simplify the process and if the information and parts included are accurate and reliable according to design it would be good to have it since it is easier to secure proper execution and simplifies the complete process. Customer often ask for kits for these type of equipments
  - From the perspective of convenient and quick guide customers
  - For Homogenizer:

- In my opinion it will be a great idea especially the customer are face to a lack of knowledge of their methodology and supply chain staff and most of cases they did not order the right parts
    - The customer will just manage to order just one ref instead of many
  - Spiraflo and THE
    - it's not a big deal because there are only 2 or 3 ref to manage
  - For Modules like: Lacta & Flex:
    - it will be an interesting idea to have 3000 hrs and 6000 hrs kits rather than ordering a hundred of ref for TPMS
- How have existing service-kits worked out for you?
  - The experience says that we have to confirm with the FSE's if we have to add some additional part out of the Service Kit.
  - Fair (Some of the kits are specific to ex. Separators- if the outlet, disc configuration, and or any part is changed the kits will no longer align.
  - We use the kits for BUIC, AL Separation, AL Plant Components,
  - They are working out well.
  - We currently only have service agreements for HCV's & YMV's
  - Actually it's perfect especially with freezer: customer appreciate this solution because it simplify the spar part management and reduce the negative effect of the lack of experience of their technical staff
  - Specific positive effects?
    - Order Handling, Labour Effectiveness
    - Normally work out well, the Service kit includes only the basic recommended to be replaced.
    - Kits with correct parts are great.

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- Easier to price Service Agreements, Easier to stock, Easier to Order,
- Single part number which is easy to quote.
- We list and include all needed parts in our estimates
- Simplify the process and if they are properly set up they avoid missing parts during execution
- Convenient for the customer and a value sell for TP
- Customers can be a one-time order to all of the required spare parts; don't have to worry about missing.
- Challenges?
  - Accuracy of content, flexibility of contents.
  - Improve the content, in separators the service kits normally we have to add separately some parts needed as well or some parts are not used, the same for Spiraflo, for instance a floating ring is not included in the service kit and should be considered on request.
  - Getting correct parts in kits for locally modified equipment.
  - None for MC, Difficult for BU for Homogenizer as Material and piston size vary
  - The right service kit for every machine and maintenance.
  - Updating old part numbers in the SAP system
  - 1. Information on the specific parts included in each service kit since customer still validates which parts are included in them to add

the ones they normally include according to their concept and equipment history. It should be easy to access to the right information for each kit and also take into consideration parts replacement or obsolescence. Also in the Peru market in order to import the parts we always need to detail this information and now we have to go to the manuals to find this information which is very complicated or not accurate in some cases. It should be at least in PIV for easy search.

2. Normally when a customize upgrade is done even though they are design by BU normally information and documentation presents mistakes so additional awareness in this topic should be secure.
3. Also if an upgrade is globally release we should still need to consider that customer not necessarily applies it to the equipment so the challenge is to have a proper tool to secure data and history for each equipment to avoid mistakes and also availability of the correct kit or correct information so technical there would be no confusion
4. Price for service kits should be set up according to price of complete component. In some

## Unveiling the power of selling spare-parts as a happy-meal

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cases we have found that service kits prices are set up as 60-70% of price of the new component so it makes more sense to change the complete unit

- Part no. has to be clear for each part in SK, to be able to identify similar parts
- The price;
- If there are some spare parts in service-kits can't change, how to explain?
- If the spare parts package contains air contraband, will influence the arrival on time.

### Introduction process

- How did you introduce service-kits, what did the process look like?
  - Only for Separators now, and have been introduced to customers more than 20 years ago.
  - There are for separators, THE, valves and pumps, TAlmix. This concept normally is a good sales argument.
  - We have had service kits some were locally built and slowly transitioned to global kits.
  - Start quoting kits to customer in service agreement, have CSR offer to customers during normal parts ordering process
  - Introduced as part of the preventive maintenance solution.
  - Cheese E&D does not have service kits at this time
  - They are offered as a spare part in the preventive maintenances routine and offered through the normal TCSR channel. No special marketing has been done recently except for the Freezers for Ice Cream.

## Unveiling the power of selling spare-parts as a happy-meal

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- I introduced the service kit as a new Tetrapak solutions for reducing errors and simplify all customers purchasing and cost less by 27%
- Special aspects that where/should have been considered?
  - Accuracy and obsolete components.
  - Amount of different kits for separators to many for a major service and they still duplicate o-rings.
  - Important aspects to be considered such as technical documentation and marketing brochures.
  - Segmentation of:
    - Products?
      - Plant components and key components
      - Parts replacement, when one parts is made obsolete or replaced, make sure kits are adjusted to include correct items, not just BOMs, but even kits in supply chain.
      - Branded Products, Modules, etc.
      - Vats & Towers
      - KC
      - YES (Freezers, Separators)
      - Using brochures or technical manuals, inform the customer the spare parts in the package what are the spare parts.
    - Customers?



- All
  - Global Accounts, Food Category, etc.
  - No
  - Not specifically for service kit but segmentation done on wiliness to outsource & industrial maturity in ordert to target key players and the one we have more chance to succeed on selling maintenance or the one we want to develop partnership
  - Won't be adopted on the spot, they will check and compare prices themselves before make a decision.
- Did you experience any specifically good/challenging cooperation with any TP internal functions during the introduction?
    - Any specific:
      - Good example to use is Ice Cream Service Kits and especially for mix/cream pump. Value added to customer is performance & saving for customer on equipment efficiency and reputability of equipment running at nominal capacity. Additional to that, there is a significant saving (-23%) on price compare to buy single spare parts

- aspects worth carrying forward?
  - BU's support
  - Marketing support and sales material.
  - For the Freezers the marketing material was good
  - Technical manuals full details, convenient for customers;
- improvement areas?
  - Brochures, updates, technical bulletins
  - The way the kits are packaged. Insure that the part numbers are visible, and on every O-ring and every part.
  - The new kits for AL Separation are a step in the wrong direction, before you have a major and intermediate kit, now you have 7. This is very confusing for the customer. Do not over engineer the complexity of the kit offering. Make it simple.
  - Technical documentation.
  - Information availability during equipment life cycle.
  - The increase of the spare parts service-kits information can be released as soon as possible. Especially let our engineers know this information.

#### Maintenance & Communication

- What is your role in the continuous process of maintaining/developing the current service-kits?
  - As I mentioned before all the feedback we gave about the kits was always missregarded by Alfa

- Laval or the BU as never a change was implemented in the content according to our requests
- None
- Feedback when the kits were incorrect and or were missing components,
- None
- Sales Management and Business Development.
- Looking at expanding service agreements for Vats & Towers
- Not been yet part of
- I'm the only introducer and customer's technical contact and regarding my long experiences and technical background I build a strong trust with my customer and this helping me a lot because the customer always consider me as his support instead of just a sales representative
- Any special channels used to communicate backwards in the value chain?
  - There should be only one way and the answer should be fast. If the Market Area gives feedback and there is nobody answering us or taking actions we will stop doing it as it doesn't worth it.
  - Qu-Tip
  - None, it usually does not go anywhere or get any action on.
  - QuTip and Issue Resolution.
  - Before we went directly to our contact in the BU but no action was taken. Now we place a Query in the system or a technical issue but we do not feel an action is taken care of.
- Any specific:
  - aspects worth carrying forward?

- Continue with the same Number pattern EX. Homogenizers 6-4722
- Technical Bulletins.
- improvement areas?
  - Kit configuration If it's in a kit we should be replacing more not less.
  - Support from the BU's.
  - Information availability including obsolescence and replacement of parts.

#### Effects

- How does the selling process differ between kits and single parts?
  - No change at all, only simplicity in Handling, Storage & execution
  - Less Chance for incorrect part numbers and incorrect packaged parts.
  - You are committed with the customer to offer solutions instead of single parts.
  - Nothing, selling preventive maintenance is the key driver
  - Selling kits it's bit hard comparing with single part only during the first discussion but usually you have to choose a customer where you have a high chance to convince and sell then it will be more easy to introduce it for others because you will have an improvement area that you could use it as strong example. Why selling kit is a bit harder than single part it usually a matter of prices, customer will only see the price and will saw my I will not use all those parts and then you have to focus on the benefit of using the system of preventative maintenance. Service kit could help on service agreement but not with customer having a strong

technical skilled team. The ordering process was perfectly running because ordering just one reference is easier than ordering a hundred of references and also in delivery time because you get all parts in one time instead of waiting to get them all in single ordering. The customer use of spare part increased with almost the same cost

- Easier/harder to sell in service-kits?
  - Easier
  - Sometimes I would think that Kits would be easier for the customer to stock.
  - Easier, if you have the back support.
  - Easier if they are correct set up and information is accurate and delivery times improves
  - No need to be included into service contract
  - Easy.
  - why?
    - Is Harder when the customer realizes that the content is Not Accurate, and there are surplus or missing parts or lack of accuracy in the delivery. This has to be perfect since day one of implementation, otherwise the bad image will be installed already.
    - Order handling, value added for the customer.
    - Because it fits with preventive maintenance as a whole solution.
    - Would be easier in a service agreement with reduced pricing on parts & labor
    - Administrative workload and technical accuracy

- Selling value to customer and integrate into full package of the service agreement
    - For service-kits, it's cheaper overall than a single purchase
  - Easier/harder to communicate the value of preventive maintenance with service-kits?
    - Might be slightly easier... but its hard to chance customers mindsets or maintenance strategies.
    - Easier
    - Harder to communicate why the customer has an abundance of extra parts after several Major services with multiple kits.
    - Easier, with the right market support and sales material.
    - Service Agreements, Yes
    - We think there is no impact there it only affect the administrative part and depends of course f they are accurate and reliable technically.
    - Same as above
    - Easy.
  - Any figures on impact of turnover comparing before and after the introduction of the current service-kits?
    - It is difficult to mention a number but the impact should be positive.
    - No
    - No information on this. My apologies.
    - NO
    - On this issue, we can't to answer because we didn't do the corresponding data statistics.
- Would service-kits help or hinder implementation of service agreements?

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- It can help, but in general to encourage the customer to do preventive maintenance.
- Service kits help to sign agreements.
- Help
- No, do not think so, they are still available for the customer with or without contract
- Not sure as describe above. What is important is the performance of the maintenance performed. Value for money, equipment reliability. Guaranty of performance for me is the KEY differentiator Should service kit secure right maintenance at right cost with performance then no limitation from customer to buy
- In general there will be some help. But in China, because the silicone products are prohibited from air, so involved in silicon lipid spare parts package, will affect the forecast of the arrival of the cycle, thus lets the customer feel dissatisfied.
- How has the ordering process been affected?
  - Number of lines to be ordered, purchasing process by the customer more easy.
  - I guess it is more agile.
  - We are still learning
  - Not at the moment
  - For the spare parts already in the system effect is small;
  - For others what is not in retrieval system, when want to apply for to establish a spare part number, you need waiting for a long time.
  - Have the pressure on order handling changed?
    - Yes.
    - I think, it changes in positive manner.
    - Yes
    - No
    - Customers need to buy spare parts as soon as possible, and we can't provide quotation as soon as possible or let the

customer from the system procurement,  
most pressure at this moment.

- Have your insight in the customers' use of spare parts increased?
  - If we improve the price as well, it will increase.
  - Since the planning maintenance is customer strategy, the use of spare parts would increase steadily.
  - Yes, due to the changes in part numbers and age of equipment
  - No
  - Although customers purchase a large amount of plant components from TetraPak, but if the parts are not used for production, the customer tends to use more the local spare parts. So the spare parts quantity will be increase in the future but the extent of growth is out of step with the plant component sales growth.

#### Pricing

- Do you see any possibility to a non-discounted pricing for the kits?
  - The kit should cost less than the sum of the individual parts purchased separately.
  - No
  - We do this on some of our local kits we offer, but in general customers would see TP as better partner to have kit at lower price than all individual parts.
  - Not at all.
  - No
  - Yes – include into service agreement will not show the cost. But need compensation, ie performance guaranty
  - Any additional value created by the service-kit that could argue for this?



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- The Values to be offered are, Ordering and Handling Simplicity not only from logistics but for Maintenance organization, Accuracy of Scope is Key, Flexibility of Scope must exist.
- Handling
- Delivery time, probably.
- Delivery time should be a plus.
- For single service-kits, discount won't attract customers. For the whole bulk order of spare parts, customers will concern the discount, but bulk order of spare parts, spare parts package quantity relatively not too much.

## 10.4 APPENDIX 5: TS&S INTERVIEW GUIDE

### 10.4.1 Customers

- How do the customers perceive service-kits?
  - Any specific feedback?
- Have their ordering process become easier?
  - Increased use of standardized ordering channels (e.g. e-business)?
- Other values for the customers?

### 10.4.2 TPPS

#### *Overalls*

- How have service-kits worked out for you?
  - Specific positive effects?
  - Challenges?

#### *Specifics*

- How are the service-kits priced compared to the sum of its constituent parts?
  - What factors are taken into consideration when developing the price?

#### *Development process*

- How did you develop service-kits, what did the process look like?
  - Special aspects that where/should have been considered?
    - Segmentation of:
      - Products?
      - Customers?
  - Which TP internal functions were/are affected by service-kits?
- Who have the continuous responsibility for maintaining/developing the service-kits?
  - A special product-owner?

#### *Effects*

## Unveiling the power of selling spare-parts as a happy-meal

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- Have you experienced any changes in sales after introducing service-kits?
  - What aspects are mostly influencing this eventual change?
- How has the ordering process been affected?
  - Have the pressure on order handling changed?
- Have your insight in the customers' use of spare parts increased?

## 10.5 APPENDIX 5: TS&S INTERVIEW GUIDE

### 10.5.1 Customer segmentation

- What kind of different types of strategies are there when it comes to maintenance?
  - Relation between each one of the types?
  - Different set-ups of KPIs?
- Pros and cons with each one of the maintenance strategies?
- Effects of each one of the maintenance strategies for TPPS?

### 10.5.2 Service-kit and maintenance

- How would service-kits fit into each one of the maintenance strategies for the customers?
- Difficulties with service-kits?
- Other effects of service-kits for either the customers of TPPS?

### 10.5.3 Education

- How susceptible are the customers to being “educated” regarding maintenance?
  - Input on the thought of offering the customers with a set of KPIs?

## 10.6 APPENDIX 6: CASE STUDIES INTERVIEW GUIDE

### 10.6.1 Customer Value

- How do the customers perceive service-kits?
  - Any specific feedback?
- Have their ordering process become easier?
  - Increased use of standardized ordering channels (e.g. e-business)?
- Have service-kits simplified the communication of value to the customer?
- Other values for the customers?

### 10.6.2 Internal Value

#### *Overalls*

- How have service-kits worked out for you?
  - Specific positive effects?
  - Challenges?

#### *Development process*

- How did you develop service-kits, what did the process look like?
  - Special aspects that where/should have been considered?
    - Segmentation of:
      - Products?
      - Customers?
  - Which AL internal functions were/are affected by service-kits?
- Who have the continuous responsibility for maintaining/developing the service-kits?
  - A special product-owner?

#### *Effects*

- Have you experienced any changes in sales after introducing service-kits?

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- What aspects are mostly influencing this eventual change?
- How has the ordering process been affected?
  - Have the pressure on order handling changed?
- Have your insight in the customers' use of spare parts increased?

### *Specifics*

- How are the service-kits priced compared to the sum of its constituent parts?
  - What factors are taken into consideration when developing the price?