Transformation of business models during a product launch process: a dynamic perspective.

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There are no pleasures in a fight but some of my fights have been a pleasure to win.

-Muhammad Ali-
Abstract
This study used an exploratory case-study-based research design to explore how a service oriented firm launches a non-service product next to their established service business. This thesis showcases a single case study in which the product launch process is evaluated with a business model perspective. Second, this thesis contributes to literature on product launch processes, in terms of how a business model perspective can create valuable insights and evaluation options in a product launch process. Last, contributions are made to literature on product launch process by using a business model perspective on a single case and concluded with case specific implications.

Literature review
The development of new products is one of the key drivers of a company’s growth. Nevertheless, launching these new products can be very risky and costly (Di Benedetto, 1999; Hultink et al., 1997). In the past decades much research has been done on product launch. Questions relating to what, when, where, why, and how to launch (Hultink et al. 1997; Hultink, et al., 1998) were point of discussion. This differentiation between strategic and tactical launch decisions is mainly rooted in traditional marketing related aspects of a product launch (e.g. 4-P’s). However, existing product launch literature revealed an extensive collection of variables, consensus has not been reached. Therefore, to fully understand product launch success managers and academics need to adopt a more holistic view on product launch.

In this study the business model ontology of Osterwalder (2004) is used. With the business model perspective it is possible to classify the product launch literature in one of the aspects as defined in the business model. Looking from this perspective it is clear that the product launch variables can be categorized by the business model aspects. Overall the product launch variables are diffused over the business model aspects. The business model before the product launch is different than the business model after the product launch. By launching a new offering, the product launch and the product are most likely to initiate business model change. It can be useful for entrepreneurs to know and understand how a product launch alters the established business model of a firm as a whole, knowing from the literature study, during a product launch all business model aspects are at least of some importance. If this is also applicable in practice and when each business model aspect is of importance is lacking in the current literature.
Research context
This study is executed at Chematronics BV, a consulting company is specialized in fields of strategy, business development and finance for innovative small and medium-sized enterprises (SMEs). The selected case of Cargo BV (a pseudonym), one of the clients of Chematronics, is specialized in the engineering and management of marine services concerning heavy lifts and project cargo. Next to this service they have launched a software program (a non-service offering) named Lashcad (also a pseudonym) in which lashing and securing and stowage plans can be made. When a product is launched by a service oriented firm it is likely that the overall business model changes. And because of the difference in the product and service offering the changes should be clear. Therefore the following research question is stated in this study; how does a service oriented firm launch non-service products next to their established service business?

In order to answer this general research question, two sub-questions are derived. The first sub-question is divided in two elements, the first one focusses on the extend that every business model has an impact on the product launch process. The second part adds the relation of the different phases of product launch effort (pre-launch, launch, and post-launch). The second sub-question is closely related to the case of Cargo BV, on how to make deliberate decisions on how to launch a product in a service oriented firm, in such a way that it will strengthen the overall business model of the firm.

Research approach and methods
To obtain multiple perspectives on the product launch effort and the business model change twelve semi structured interviews were conducted, in this qualitative study. Complemented with secondary courses of information like, internal documentation, business plans, sales data, and e-mail conversations. During the data collection, the data was inductively analyzed, following the guidelines of naturalistic inquiry (Lincoln and Guba, 1985). Using constant comparison techniques (Glaser and Strauss, 1967; Strauss and Corbin, 1990) it was possible to compare how different respondents perceived different actions or events during the launch process. An initial coding scheme is deduced from the literature and used to select quotes from the transcriptions using NVivo. The topic of these quotes are named first-order categories (Nag, Corley, and Gioia, 2007). All the quotes with corresponding coding and first-order categories are reviewed and validated by a senior professor. The first-order categories were enabled to collapse them into distinctive groups, or 2nd order themes (Nag et al., 2007). To give structure to the in total 31 themes the initial business model coding was used to define the overarching dimensions (Nag et al., 2007). By doing this the themes were categorized and an answer to the research questions can be formulated.
Emergent findings
To understand the data extracted from the interviews a data structure is formed. A rather static image is created to understand what happened in the case and what was of importance. A dynamic model is constructed based on the second-order themes and including the product launch phases as introduced in the literature review. The service is as standalone, this service offering formed the starting point and did not radically change during the product launch process. And is thus a stable offering during the whole product launch process, apart from this the three product launch phase are evaluated separately.

The first sub question was does every business model aspects have an impact on the product launch process? From the data can be concluded that all the business model aspects have an impact on the product launch process, this is in line with the literature findings. All the aspects are discussed during the different phases of the product launch process, only the attention shifts over the different phases. This opens up the discussion for sub-question two, how do these business model elements relate to the different phases of the product launch? From the data is depicted, and in line with previous literature, in the pre-launch the value proposition and the infrastructure management are most important. Decisions have to be made regarding what is needed to create the product and how should it create value for the customer. Later in the process the value proposition stays of importance but the attention shifts towards the customer interface aspects (target customer, distribution channel, and relationships). The customer is central in this phase and the discussion is pointed towards selling the product.

On first glance there seems to be between the service and the product offering a high level of synergy, because the same marketing and selling technique. The use of identical marketing and selling techniques, combined with the customers’ need for training this limits the product offering to reach many new customers. And thus the two offerings do not strengthen each other, because the product offering only utilizes the service offering database. When the product offering is sold and marketed more separated from the service offering new customers could be attracted for the product who are also potential customers for the service. A requirement for selling the product offering is that the dependency on the training need has to decrease.

Discussion and conclusion
This master thesis identified how a product launch is carried out from a business model perspective. The research question in this study is; how does a service oriented firm launch non-service products next to their established service business? To answer this question the first sub-research questions revealed that it was possible to see a product launch with a business model perspective and that during the
product launch process all the business model aspects are of importance. The second sub-research question revealed that, during the pre-launch phase, the attention is predominantly on the value proposition and the infrastructure management. During the launch this attention shifts towards the revenue model and the distribution channel. During the post-launch phase, the attention shifts towards the customer interface. The value proposition remains of great importance.

The second research question, the synergy between the service and the product offering. This revealed that in the Cargo BV case, there seems to be a high level of synergy in the adopted marketing and selling approach, increases operational efficiency. But this hinders the diffusion of the product more than it contributes to widespread adoption. To create more synergy that contributes to both offerings, the way the company should address customers about the product offering is reviewed. By doing this differently from the service selling technique more and other potential clients can be reached. This can be done by expanding the sales force, or by developing new marketing/ commercial capabilities. However, to implement these recommendations effectively, specific characteristics of the product should be adapted to be make widespread (re-) introduction of the product possible. Initial barriers to use the product, such as needed training and perceived complexity have to be lowered.

This research shows that business model perspective is useful to evaluate the product launch process. Firstly, to create valuable insights, on which business model elements to focus at which point in time. Secondly, to evaluate other options that could have been chosen during the launch process that might have led to different/ better results. Because of the single case study approach, one should be careful with generalization of the results. Still, this study provides valuable insights and offers promising opportunities for further research.
Preface

The thesis is conducted in partial fulfillment for the requirements for Master of Science in Innovation Management degree, at the school of Industrial Engineering and Innovation Sciences of the Eindhoven University of Technology. Chematronics provided the opportunity to carry out this research, the organization is specialized in consultancy for innovative small and medium sized enterprises.

I experienced conducting this master thesis as a very challenging period, sometimes a bit desperate, but overall grateful to learn from every day. I would like to thank my university supervisor Michel van der Borgh for all the feedback and support, your determination and guidance were essential for me in this period. I want to show my gratitude towards my second university supervisor, Ed Nijssen, for his critical feedback in the last period of my thesis. I want to thank Rutger Stultiëns and Twan Smetsers as my company supervisors. Their feedback, help, and experience are of great value in the realization of this thesis, and for me personally. Next to that I am very grateful to my other colleagues, Jeroen Cremers, Bram Arts, Corine van Overdijk, Dirk Bothof, and Wout Hogenelst, for the support and refreshing thoughts. Finally, my special thanks go to the interview respondents and to the direction of Cargo BV, without their help this thesis would not have been possible.
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1 Introduction

The development of new products is one of the key drivers of a company’s growth. However launching these new products can be very risky and costly (Di Benedetto, 1999; Hultink, Griffin, Hart, and Robben, 1997). Therefore it is important to create a good organizational environment and conditions to give the product launch the best chance of success. Product launch can be defined as “The debut of a product into the market. The product launch signifies the point at which consumers first have access to a new product.” (Business Dictionary, 2014). Out of all steps of the new product development (NPD) process, product launch requires the largest commitment in time, money, and managerial resources (Urban and Hauser, 1993). Despite the fact that the used resources are large, relative to other steps in the NPD process, a vast percentage of product launches fail (Cierpicki, Wright, and Sharp, 2000).

It is clear that not every new product with its product launch can be a winner. But what makes the difference? And how can a failure be avoided or how can a product launch become a success? For example, one of the biggest and most valuable brands of the world, Coca-Cola, is not always successful with their product launches. New Coke was introduced in 1985 as an attempt to stay ahead of the competitors. With the introduction of New Coke, Coca-Cola made changes in their fabled secret formula for the first time in 99 years. According to Forbes (2011) that introduction was one of the most notorious product flops of all time. Coca-Cola spends huge amounts of time and money into the research and development and on average people did like the new beverage. The taste, appearance or the price were all good only the feeling people had about the company changed, Coca-Cola was part of their identity. A large customer base felt cheated that their beloved drink had been tampered with and started to boycott the new product (Coca-Cola Company, 2012). After 79 days the “old” Coke returned on the shelves next to the New Coke, which eventually disappeared from the market.

In the past decades much research has been done on product launch. Questions relating to what, when, where, why, and how to launch (Hultink et al. 1997; Hultink, Griffin, Robben, and Hart, 1998) were point of discussion. This differentiation between strategic and tactical launch decisions is mainly rooted in traditional marketing related aspects of a product launch (e.g. 4-P’s). However existing product launch literature revealed an extensive collection of variables, many studies focus on one or a few variables and therefore lack an overarching framework. Some studies (e.g. Hultink et al. 1997; Hultink et al. 1998) try to come up with generic launch strategies, but are not complete. The Hultink et al. 1998 study found that only in a few project types generic launch strategies could be identified. And many other strategic
and tactical decisions are left unspecified, possibly because of missing context-specific refinements (Hultink et al. 1998). Therefore, to fully understand product launch success managers and academics need to adopt a more holistic view on product launch.

A stream of literature that may be informative to the study of product launch may be the merging work on business models. Osterwalder (2004) states that a business model creates a commonly understood language to improve communication and understanding of the fundamental questions of a business. In other words, a business model describes the rationale of how an organization creates, delivers, and captures value. The Osterwalder (2004) business model concept is based on four pillars, namely; product, customer interface, infrastructure management, and financial aspects. With the business model perspective it is possible to classify the product launch literature in one of the aspects as defined in the business model. The business model before the product launch is different than the business model after the launch. The new product and the corresponding product launch process initiate the business model change. The existing business model is changed or extended with a new offering. With this perspective the business model changes in every phase are investigated, and the firm can act correspondingly. This research tries to clarify which business model aspects are of most importance at which phase of the product launch process, and projecting this on a specific case to give recommendations and insights for the investigated company. The research question is therefore; how does a service oriented firm launch non-service products next to their established service business? This thesis starts with a literature review (chapter 2) of the product launch literature with a business model perspective. In chapter 3 the research context, research questions and conceptual model are discussed. Chapter 4 enlightens the research approach and the methods used in this thesis. In chapter 5 the emergent findings are discussed. This thesis is concluded in chapter 6 with the discussion and conclusion.
2 Literature review

This chapter starts with the introduction of the business model concept. In the second paragraph the business model constructs, according Osterwalder (2004) are elaborated on. The third paragraph introduces the product launch process with the three phases. Paragraph 2.4 and 2.5 elaborate on the product launch literature. In this literature review the product launch literature is reviewed with a business model perspective. All the variables identified in the product launch literature are structured in one of the business model aspects. By doing this some interesting points were identified, these are introduced in paragraph 2.4. In paragraph 2.5 the variables that were structured in a business model aspect are discussed. Each business model aspect is covered separately. Finally this chapter is concluded. The goal of this literature review is to structure all the product launch variables by looking from a business model perspective. With this perspective it is identified which business model aspects are important during a product launch process. And form the starting point to investigate which business model aspects are important at which moment in a product launch process.

2.1 Introduction of the business model concept

In this study the business model ontology of Osterwalder (2004) will be used, in the literature review other business model frameworks were investigated (e.g., Amit and Zott, 2001; Chesbrough and Roosenbloom, 2002; Johnson, Christensen, and Kagermann, 2008) The Osterwalder (2004) based his ontology on the 20 most important business model authors (e.g., Amit and Zott, 2001; Chesbrough and Roosenbloom, 2002; Linder and Cantrell, 2000). The Osterwalder model is maybe the most famous in the world and has been applied many times around the world. The framework is used in organizations such as IBM and Deloitte and many, many others (Osterwalder and Pigneur, 2010). The Osterwalder framework is chosen because of the wide acceptance of the model and because it takes in consideration many other accepted business model frameworks. The business model concept developed by Osterwalder (2004) is based on four pillars, namely; product, customer interface, infrastructure management, and financial aspects. These four pillars are divided into nine building blocks (Customer segments, value propositions, channels, customer relationships, revenue streams, key resources, key activities, key partnerships, and cost structure). See Figure 2.1 for an overview.
Figure 2.1 Business model ontology (Osterwalder 2004)

The model facilitates the ability to create a transparent big picture, with common understood language to improve communication and understanding of the fundamental questions of a business. Business models create core assets, capabilities, relationships, and knowledge (Linder and Cantrell, 2000). It is important to make business transparent to show where costs and risks come from (Osterwalder, 2004). With a clear business model a company can enhance their organizational focus and easily establish a business framework for competing in the market (Linder and Cantrell, 2000).

The Osterwalder (2004) framework is based on the premise that the business model is on firm level. This implies that within a company only one business model can exist. Linder and Cantrell (2000) explain that this model can evolve/ change over time but they state that there is still one business model. Within a business model several offerings can exist. For example, a company who sells products and services has several offerings that are bundled into one business model for the whole company. When a company has one offering the business model and the offering will be the same. When a company decides to add an offering (launch a new product) the two (or more) offerings are combined into the (one) business model for that company (see Figure 2.2). To explain and give structure to the offering the aspects of the business model concept are used. The aspects of every offering are combined and lead to the overall business model.
2.2 **Business model constructs**

The Osterwalder (2004) business model ontology consists of four pillars, namely; product, customer interface, infrastructure management, and financial aspects. These four pillars are divided into nine building blocks (Value Proposition, Target Customer, Distribution Channel, Relationship, Value Configuration, Capability, Partnership, Cost structure, and Revenue Model). Figure 2.1 gives a graphical representation of the model proposed by Osterwalder (2004). The definitions of the nine building blocks are based on Osterwalder (2004) and/or Osterwalder and Pigneur (2010) and given in Table 2.1.

### Table 2.1 Definitions business model elements

<table>
<thead>
<tr>
<th>Business model element</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Value Proposition</strong></td>
<td>The value proposition describes the bundle of products and services that create value for a specific customer segment (Osterwalder and Pigneur, 2010). In essence it is why the customer chooses one firm over another.</td>
</tr>
<tr>
<td><strong>Target Customer</strong></td>
<td>Defines the type of customers a company wants to address (Osterwalder, 2004). Taking the product launch in consideration the target customer can be defined as the type of customers that a company wants to address when launching the product or service.</td>
</tr>
<tr>
<td><strong>Distribution Channel</strong></td>
<td>The means of getting in touch with the customer (Osterwalder, 2004). Osterwalder and Pigneur (2010) state that value propositions are delivered to customers through communication, distribution, and sales channels. Channels can differ for every offering, and therefore also for every product launch.</td>
</tr>
<tr>
<td><strong>Relationship</strong></td>
<td>Describes the link a company establishes between itself and the customer (Osterwalder, 2004).</td>
</tr>
<tr>
<td><strong>Capability</strong></td>
<td>These capabilities depend on the assets or resources of the firm (Bagchi and Tulskie, 2004).</td>
</tr>
</tbody>
</table>

![Figure 2.2 Business model evolution](image-url)
2.3 **New product launch process**

Similar to the (business) change model (Linder and Cantrell, 2000), the new product launch process is a dynamic process and can be defined in terms of stages. According to Cooper (2008) a popular system for driving new products to the market is the Stage-Gate principle (Cooper, 1990). It is a blueprint for managing the NPD process to improve effectiveness and efficiency (Cooper, 1990; 2008). Figure 2.3 gives an overview of a typical stage-gate system.

![Stage-Gate®: A five stage, five-gate system along with Discovery and Post-Launch Review](image)

*Source: Cooper, 2001.*

**Figure 2.3** typical stage-gate system
All the stages until the testing and validation stage are all affiliated with the development of the new product. This study is focusing on the product launch process and based on practical experience, in this study all stages and gates until testing and validation will be referred to as pre-launch. The launch and post-launch stages will remain the same, according the Stage-gate principle (Cooper, 1990).

The pre-launch stage is the period in time concerning activities or conditions before the launch of a campaign or product (Oxford Dictionaries, 2014). In this study all activities from Discovery until Testing and Validation (Cooper, 1990) are included in the pre-launch stage. In other words all the activities (including R&D) executed before the point of the actual launch can be classified as the pre-launch stage in this study.

The Launch stage starts at the introduction of a product in the market, the product launch signifies the point at which consumers first have access to a new product (Business Dictionary, 2014). Following the stage-gate principle (Cooper, 1990), the end of the product launch is marked when the new product becomes a ‘regular product’. This is a fuzzy description for the end of this stage, indicating the end of the launch stage will vary per case.

At the point in time it is a ‘regular product’ according to the company, the post-launch stage begins. At this point the project and product performance is reviewed (Cooper, 1990). Examples of post-launch activities could be the publication of the success stories, or the introduction of special offerings to further ramp up sales. After these evaluations and possible changes the end of the product launch is marked, and there is no connection to the launch process any more. At this point the post-launch and the whole launch process is ended.

2.4 A business model perspective on a product launch

To get a full overview of the product launch variables a table is constructed in which all the empirically tested product launch variables are categorized by the building blocks as specified by Osterwalder (2004), see appendix A (literature overview). Before proceeding to discuss how prior research findings relate to each of the aspects of the business model concept several general findings are worth noting. First, studies that are excluded from the table because they are conceptual or descriptive can still be very influential. The conceptual study of Guiltinan (1999) acted as a useful framework for other empirical studies (
Figure 2.4). The framework that is conceptualized has many (if not all) aspects who are also tested in empirical studies. The Guiltinan (1999) acts as a good starting point in analyzing the product launch literature. The degree of newness, the desired outcome and the new product drivers influence the strategic and tactical launch variables. Product-market characteristics, technical environment and the firms resources are influencing these launch variables. The combination of all the previous variables results in a perceived relative advantage and compatibility for the customer (Guiltinan, 1999).

![Diagram of launch planning](image)

Figure 2.4 Antecedents and components of launch planning (Guiltinan, 1999)

Second, in the reviewed product launch literature the business model concept is not even mentioned once, and there appears to be not one study that uses the business model concept to explain or review product launch. A possible explanation could be that product launch is mostly viewed from a market orientation and the business model is more internally oriented. Market orientation is constructed out of customer orientation, competitor orientation, and inter-functional coordination (Narver and Slater, 1990), and can be seen as all externally oriented factors. A business model primarily addresses the internal capabilities (such as value configuration) and does not include competition (Osterwalder, Pigneur, and Tucci, 2005). Looking at appendix A there are some competitors aspects distilled from all
the product launch variables (e.g. competitive position, number of competitors, competitor types, and competitive equity). Knowing the lack of a direct competitive aspect the business model concept does have indirect links to competitive aspects, for example the value proposition. The bundle of products or services that are of value to the customer does indirectly relate to the competitors, because partly based on the competition customers perceive the value of the specific product or service. Knowing this, the competitive aspects are of importance and therefore they are included in this study in the value proposition element.

Third, a product launch is a dynamic process in which different variables are important at different points in time. Based on the Stage-Gate principle (Cooper, 1990) a pre-launch, launch, and post-launch stage are defined. The classification of Hultink et al. (1997;1998) the strategic launch decisions that are taken at an early stage and the tactical launch decisions are made later in the process is another often used perspective. A Business model on the other hand is a snapshot of activities at one point in time. Appendix A shows that it is possible to classify the product launch variables into one of the business model variables. By taking multiple snapshots at different phases of the product launch, together with the product launch literature, it was still possible to construct a dynamic perspective. The on itself static business model was not a significant barrier using this approach.

Last, empirical studies were mostly conducted within medium and large firms. Bigger companies have sufficient resources and more capabilities to execute different aspects of the launch plan. The product launch in SMEs is an under-researched aspect in product launch literature. According to the European Commission (2003) a company is a SME when it has less than 250 employees. The European Commission (2003) uses distinguishes three different categories, namely; Micro (<10 employees), Small (<50 employees), Medium-sized (<250 employees). A company with more than 250 employees is classified in this study as a large company. A graphical representation of the used categories in this literature study is shown in Table 2.2. A study that used data from more than one company category (for example companies ranging from 11 to 30,000 employees), is included in all categories. As can be seen there is an overall tendency to use bigger companies.
A close inspection of the literature summary reveals that all business model categories get at least some attention in product launch literature. Some aspects are mentioned or can be related to in the literature only a few times, and others are discussed in many studies. Most studies elaborate on only some aspects of the business model concept, they explain or focus on a small part of the whole product launch process. Many of the product launch studies focus on a small part of the entire product launch process or try to explain one of the variables in the product launch process. The tendency to focus on a small part of the product launch process may be due to the difficulty of explaining the whole product launch process. The tendency of focusing on a small part does express the difficulty of managing the whole process. In the remainder of this chapter each of the four pillars of the business model concept will be discussed and the main findings regarding each aspect of the business model will be elaborated on.

### 2.5 Product findings

The only aspect within the product pillar according to Osterwalder (2004) is the value proposition. The value proposition is the view of the bundle of products and services that are of value to the customer (Osterwalder, 2004). Relating this to the product launch literature, Hultink et al. (1998) identifies that an aspect of the launch strategy has to be the establishment of objectives. These objectives have to be made early in the process because they can influence the value proposition of the new product or service. These objectives can range from expand product range to increase company’s image (Hultink et
Creating value is in the product launch literature often linked to delivering something new or innovative. Used terms are: radicalness of new product/service (Frattini, Dell’Era, and Rangone, 2013); relative advantage (Bruce, Daly, and Kahn, 2007; Gratner and Thomas, 1993); product innovativeness (Hultink et al., 1997; 1998; Parry and Song, 1994); and product newness (Gartner and Thomas, 1993; Hultink et al, 1997; 1998; Kuester, Homburg, and Hess, 2012). This indicates that in order to create value to the customer it is important to differentiate from other products. To classify if the product or service is new; innovative or radical it is often compared to competitors. As previously pointed out there is no competitive aspect in the business model concept. But it is closely related to the value proposition because customers compare the relative advantage of a product or service with competitors (Rodriguez-Pinto, Gutierrez-Cillan, and Rodriguez-Escudero, 2007). Variables concerning competitors are the number of competitors (Hultink et al., 1997; 1998) and the type of competitors (Calantone, Yeniyurt, Townsend, and Schmidt, 2010; Gartner and Thomas, 1993). Relating back to the objectives of a launch strategy (Hultink et al., 1998) it is desired to influence the development of industry standards. Schatzel and Calantone (2006) refer to this as competitive equity. Summarizing the product pillar, the value proposition is constructed keeping the desired objectives, the radicalness of the product and the position in relation to competitors in mind.

2.5.2 Customer interface findings

The customer interface pillar consists of three different aspects namely, target customer, distribution channel, and customer relationships. Each of the aspects will be discussed separately starting with the target customer.

Target customer

As Osterwalder (2004) describes the target customer is a segment of customers a company wants to offer value to. Hultink et al. (1997) state that in a launch strategy a targeting strategy is needed. They only differentiate between niche and mass market. Studies such as Bruce et al. (2007) and Kim, Di Benedetto, and Lancioni (2011) identify that the innovativeness of a specific customer is important, the willingness of a customer to adopt a new product. By classifying these customers by their general innovativeness (overall willingness to adopt new products) and their domain-specific innovativeness (willingness to adopt innovative product in a specific domain) (Kim et al., 2011). Other important factors when identifying the right target customers are: demographic differences (Gartner and Thomas, 1993; Kim et al., 2011); customers cultural mores (perceptions and behaviors that define the respective society) (Bruce et al., 2007; Gartner and Thomas, 1993); and language and colloquialisms (nomenclature
surrounding communication, such as colors and symbols) (Bruce et al., 2007). All of the variables above have an impact on choosing the right target market, but these variables can also build diffusion barriers for the customers. Diffusion barriers are understood as obstacles hindering the innovation’s diffusion in the marketplace (Talke and Hultink, 2010B). Summarizing the target customer aspect according to product launch literature, it is wise to construct a targeting strategy early in the process keeping in mind the customer’s innovativeness, demographic differences, cultural mores, languages and colloquialisms, and possible diffusion barriers.

**Distribution channel**

Distribution channel is positioned by Osterwalder (2004) as the means of getting in touch with the customer. Relating to product launch literature, Kuester et al. (2012) give a wide definition of getting in touch with the customer via external launch activities. These external launch activities are all the activities targeted to customers as the external audience. In the product launch literature two streams can be found regarding the distribution channel. First, the communication with the customers, in other words the promotion of the product launch. Hultink et al. (1998) refer to this as type of promotion. Examples are: printed advertising and personal selling and many more (Hultink et al., 1998). This is closely linked to the most commonly used launch strategy to communicate with customers, the advertising strategy (Lee, Lin, Wong, and Calantone, 2011). Lee et al. (2011) identify two types of advertising, functional advertising uses rational appeals to demonstrate a product’s attributes and features in an objective manner (Lee and O’Connor, 2003a). Emotional advertising express the subjective and symbolic benefits of a product (Lee et al., 2011). Another explicit form of advertising found in product launch literature can be the preannouncement strategy (Lee et al., 2011; Schatzel and Calantone, 2006). This formal form of deliberate communication before an actual new product introduction (Eliashberg and Robertson, 1988) can create market anticipation (Schatzel and Calantone, 2006). The second stream found regarding the distribution channel is the physical distribution and its associated attributes. In the product launch literature several related variables are found regarding the (physical) distribution. Distribution policies (Bruce et al., 2007) and regulations (Bruce et al., 2007; Gartner and Thomas, 1993) are external factors which can influence the decision making process. Distribution size (Bruce et al., 2007), distribution channels (Gartner and Thomas, 1993; Hultink et al., 1997; 1998), and distribution intensity (Hultink et al., 1997) are variables that are of importance following product launch literature. In summary, the distribution channel can be divided into two dominant streams. First communicating with the customers, the type of promotion with the corresponding advertising strategy is important. The second stream is the (physical) distribution,
keeping distribution policies and regulations in mind the distribution channel, size and intensity can be chosen.

*Relationship*

Osterwalder (2004) describes the relationship aspect as the kind of link a company establishes between itself and the customer. Only Gartner and Thomas (1993) describe a relationship as defined by Osterwalder (2004) in the form of lead users. Those lead users adopt the product first and can influence the forecasting and the majority. It is surprising to see that in product launch literature little attention is given to establishing a relationship with the customers. Also the conceptual study of Guiltinan (1999) does not include any form of company-customer relationship. This is interesting because in Business-to-business marketing much attention has been given to establishing a relationship with the customer. Some authors (e.g. Woo and Ennew, 2004; 2005) view the quality of the business-to-business relationship as a crucial factor in building success in the market. Retaining customers over the long run yields greater profits (Rauyruen and Muller, 2007).

2.5.3 *Infrastructure management findings*

The three aspects of infrastructure management (value configuration, capability, and partnership) will be discussed separately.

*Value configuration*

The value configuration describes the arrangement of activities and resources that are necessary to create value for the customer (Osterwalder, 2004). In product launch literature a widely used method to specify and classify activities and resources that create value is developed by Hultink et al. (1997). Their classification of strategic launch decisions that are early in the process affect the tactical launch decisions made later in the NPD process (Hultink et al., 1997;1998) are used in many studies (e.g. Di Benedetto, 1999; Gartner and Thomas, 1993; Hultink et al., 1997;1998; Langerak et al., 2004; Parry and Song, 1994; Redmond, 1989; Talke and Hultink, 2010A). These two broad classifications (launch strategy and launch tactics) give structure to the value configuration variables found in product launch literature. First, the launch strategy is defined as compromising decisions that set the parameters within which the new product will compete: (1) define the objectives of the launch; (2) select the markets into which the new product will be introduced; and (3) determine the competitive position of the new product (Beard and Easingwood, 1996; Hultink et al., 1998; 1999). Several aspects of the launch strategies relate to different aspects of the business model. The first aspect of the launch strategy is defining the objectives,
this relates closely to the value proposition. The second aspect of the launch strategy relates to the target customer, it is selected to which customers the product is targeted. The third aspect relates again to the value proposition. In this study the competition aspects are seen as part of the value proposition (see chapter 2.4), so determining the competitive position is included in the value proposition. Variables specifically mentioned in the product launch literature next to all the variables included in the value proposition that are of importance in setting the right objectives are the driver of new product development (Calantone and Di Benedetto, 2012; Hultink et al., 1997; 1998; Kuester et al., 2012; Parry and Song, 1994); infrastructure (Bruce et al., 2007); and scale of entry (Rodriquez-Pinto et al., 2007; Oakley, 1996). The possible objective to conduct a lean launch is also an strategic launch decision (Calantone and Di Benedetto, 2012). The second aspect is selecting the markets, is linked to target customer. An additional variable which can add value is knowing what the market wants, referred to as market information gathering (Di Benedetto, 1999; Greenley and Bayus, 1994). The third aspect of determining the launch strategy is the competitive position. This aspect is also closely related to the value proposition and the lack of an explicit competitor aspect in the business model. Variables that can create value concerning competitors is the scale of entry (being a pioneer or a late entrant) (Hultink et al., 1997; Parry and Song, 1994; Rodriguez-Pinto et al., 2007).

The second overarching aspect concerns the launch tactics, and tasks related to the marketing mix decisions (Langerak, Hultink, and Robben, 2004; Di Benedetto, 1999; Gartner and Thomas, 1993). Also in this aspect many variables which need to be included in the launch tactics can be found in different aspects of the business model. The distribution and pricing parts of the marketing mix are discussed in respectively, distribution channel and revenue model of the business model. A launch tactic which can create value in the product aspect of the marketing mix is the product assortment (Hultink et al., 1997; 1998). The fourth marketing mix aspect is promotion, marketing communications determine the speed, shape, and extend of the diffusion (Chen, 2011). Variables which can create value are: Internal oriented launch activities (Kuester et al., 2012); marketing effort (Calantone and Di Benedetto, 2012); Market testing (Langerak et al., 2004) and branding (Hultink et al., 1997; 1998). Also the promotion aspect is closely related to the distribution channel, how to reach potential customers is a vital part of the promotion and is in the business model referred to as the distribution channel. Summarizing these value configuration aspects, every product launch variable that can create value is categorized by strategic or tactical launch decisions. The launch strategy is based on defining objectives, selecting markets and the competitive position. Launch tactics is based on the marketing mix.
**Capability**

Osterwalder (2004) describes a capability as the ability to execute a repeatable pattern of actions that is necessary in order to create value for the customer. The ability to execute these necessary actions depends on the firm’s skills and resources (Boulding, Morgan, and Staelin, 1997; Di Benedetto, 1999; Gartner and Thomas, 1993; Oakley, 1999) and size of the company (Kuester et al., 2012; Oakley, 1996; Talke and Hultink, 2010B) which is a proxy for recourses. To exploit the available skills and resources in an optimal way some variables are of importance: internal diffusion barriers (Talke and Hultink, 2010B); sales person self-efficacy (Fu, Richards, Hughes, and Jones, 2010); corporate mindset (Talke and Hultink, 2010A); and salesforce intensity (Hultink et al., 1997). When employees have a corporate mindset, the sales persons have a high self-efficacy and the internal diffusion barriers are as low as possible. The available capabilities can be used as efficient as possible. Summarizing the capability aspect, capabilities are skills and resources within the company and have to be exploited as efficient as possible by creating corporate mindset, sales persons need to have a high level of self-efficacy, and internal diffusion barriers need to be as low as possible.

**Partnership**

A partnership is a voluntarily initiated cooperative agreement between two or more companies in order to create value for the customer (Osterwalder, 2004). Talke and Hultink (2010B) state that diffusion barriers to suppliers and dealers are a relevant variable. Only two studies used variables that involve links to partnership, external organizations (Frattini et al., 2013) and collaborative ventures (Talay, Seggie, and Cavusgil, 2009). It is interesting to see that in product launch literature there is limited attention for establishing a collaboration with external organizations. A factor could be that the recent paradigm shift from closed to open innovation triggered by Chesbrough (2003) is of influence. The two studies who mention a form of partnership are both published after the publication of open innovation (Chesbrough, 2003). “Open innovation is a paradigm that assumes that firms can and should use external ideas as well as internal ideas, and internal and external paths to market, as they look to advance their technology.” (Chesbrough, 2006). Chesbrough (2006) adds to this, that open innovation assumes that internal ideas can be taken to the market through external channels, outside the current business of the firm, to generate additional value. It is possible that the recent paradigm shift (of the last decade) has not influenced the product launch literature as much as the NPD literature. And based on the limited partnership related variables it can be implicitly concluded that in a product launch establishing a partnership is not common. Despite the influence of the open innovation paradigm
(Chesbrough, 2003) on the NPD process, based on this literature study, this seems not to be the case in product launch literature.

2.5.4 Financial aspects findings

The last pillar of the business model concept is the financial aspects. These financial aspects are categorized by the cost structure and the revenue model.

**Cost structure**

The cost structure is the representation in money of all the means employed in the business model (Osterwalder, 2004). When conducting a product launch, budgeting is of importance. Langerak et al. (2004) refer to this as launch budgeting, a budgeting task required to develop, implement, and to monitor launch strategy and tactics. Gartner and Thomas (1993) state that launch budgeting and forecasting go hand in hand. Hultink et al (1997; 1998) found a launch tactic that the relative distribution expenditures compared to competitors is of importance.

**Revenue model**

According to Osterwalder (2004) the revenue model describes the way a company makes money through a variety of revenue flows. In product launch literature revenue is generally created via selling products/services, hence pricing is the critical variable. Two variables were distilled from the product launch literature namely: pricing level (Hultink et al., 1998; Parry and Song, 1994) and pricing strategy (Hultink et al., 1997; 1998; Lee et al., 2011; Redmond, 1989). Both variables are classified as launch tactics which implies that in product launch literature the pricing is set in a late stage of the NPD process (Hultink et al., 1997; 1998). Pricing can be set by comparing it with competitors (Hultink et al, 1998) but it can also be based on a predetermined strategy. This pricing strategy can be evaluated based on two dimensions: (1) whether the pricing objective is increasing profit margin (skimming) or maximizing sales/market share (penetration) (Hultink et al., 1997; 1998; Lee et al., 2011; Redmond, 1989). And (2) if promotion discount pricing is offered (Lee et al., 2011). Summarizing the financial aspects as in every project budgeting is of importance, in this context the launch budgeting. All other aspects are launch tactics, which are made late in the process. This implies that the pricing of the product in a product launch process is not the dominant factor. Only when defining the launch tactics the pricing is explicitly discussed in product launch literature.
2.5.5 Conclusion

In this literature review the product launch variables are reviewed by looking from a business model perspective. In the literature many different variables are identified and consensus on one method or set of variables has not been reached. By looking from this perspective it is clear that the product launch variables can be categorized by the business model aspects. Overall the product launch variables are diffused over the business model aspects. By launching a new offering, the product launch and the product are likely to initiate business model change. It can be useful for entrepreneurs to know and understand how a product launch alters the established business model of a firm, knowing from the literature study, that during a product launch all business model aspects are at least of some importance. It should be investigated how these conclusions found in theory relate in practice. Questions on which business model aspects and which element of product launch are important at which point in time have to be answered? And how can these new and existing offerings strengthen, or create value for each other? Based on these conclusions research questions and a conceptual model are constructed, on which chapter 3 elaborate on.
3 Research context

This chapter elaborates on Chematronics the company who provided the opportunity to conduct this research. The study is conducted with a single case approach (Yin, 2009) within the company Cargo BV (a pseudonym), a case description is given and the research questions will be presented, and are based on the previous literature review.

3.1 Chematronics

Chematronics was founded in 2007; the consulting company is specialized in fields of strategy, business development and finance for innovative small and medium-sized enterprises (SMEs). Chematronics advises initiating, creating, evaluating, realizing and financing new business opportunities. The daily challenges SMEs face cause scenarios in which daily operations are often prioritized. Chematronics provides structurally improvement of business development capabilities while also focusing on short term results. Over the years Chematronics created a broad network and built up a wide range of experiences.

3.2 Cargo BV

Cargo BV, one of the clients of Chematronics, is specialized in the engineering and management of marine services concerning heavy lifts and project cargo. Next to this service they have launched a software program (a non-service offering) named Lashcad (also a pseudonym) in which lashing and securing and stowage plans can be made. In the maritime shipping and trading market this is an innovative product. Cargo BV is founded in 2007 as an one man business, and currently employs 5 to 10 people. Before the founder/ CEO started the business he was employed at several companies active in the maritime sector. During this period he gained the experience and knowledge to start as a freelance master mariner. Cargo BV delivers marine services such as cargo superintendent (CSI), surveyor, project manager, and maritime consultant.

3.3 Research question and conceptual model

Knowing the context in which this research will be conducted the earlier constructed general research question can be made specific. This research will be conducted within a company that launches a non-service product next to their established service. In the literature review the product launch is viewed from a business model perspective. When a product is launched by a service oriented firm it is likely that
the overall business model should change. And because of the difference in the product and service offering the changes should be clear. Therefore the following research question is stated in this study.

How does a service oriented firm launch non-service products next to their established service business?

A business model has different aspects, as previously specified, in a product launch also many aspects are specified in the reviewed literature. In theory these aspects can be related to each other, but is this effect also seen in practice. To investigate this sub question 1a is constructed.

1a, To what extend does every business model aspect have an impact on the product launch process?

A product launch process is in this study defined in different phases, in these phases different aspects could be of importance. To investigate which elements are of importance at which phase sub research question 1b is included.

1b, How do business model elements relate to different phases of product launch effort?

To make deliberate decisions on how to launch a product in a service oriented firm, in such a way that it will strengthen the overall business model research question 2 is included. This question is closely related to the case of Cargo BV. How can they proceed with both offerings in their portfolio?

2, How to launch a product in such a way that synergy is created between the product offering and the service offering?

Finally, Figure 3.1 shows the constructed conceptual model. In this model the transition of a business model with only a service to a model with a service and product offering is visualized. This transition is initiated by the product launch process, and also the different phases are identified. In this model the four business model pillars, as introduced by Osterwalder (2004) are visualized. These pillars represent a cluster of connected business model aspects. Those four pillars together form the nine business model aspects on which the business model canvas is based on. Based on the literature the role each pillar has changes during the product launch process. The exact impact each pillar or aspect should be clarified by answering foregoing research questions.
**Figure 3.1 Conceptual model**

- **Existing business model**
  - Service offering
    - Value proposition
    - Customer interface
    - Financial aspects
    - Infrastructure management

- **New business model**
  - Service offering
    - Value proposition development
  - Product offering
    - Customer interface development
    - Financial aspects development
    - Infrastructure management development

Legend:
- VP: Value proposition
- CI: Customer Interface
- FA: Financial aspects
- IM: Infrastructure management

Time:
- Pre-launch
- Launch
- Post-launch
4 Research approach and methods

In this chapter the methods and procedures are discussed. The used data sources are introduced, in this case this will be informants related to the Cargo BV case. Also the analytical approach is elaborated on, as well as the way in which the data obtained via transcribed interviews is processed to give answers to the research questions.

This study uses an exploratory case-study-based research design (Eisenhardt, 1989; Yin, 2009), with a retrospective approach. Eisenhardt (1989) states that theory developed from case study research are likely to have important strengths like novelty, testability, and empirical validity. And seems to be particularly well-suited within new research areas in which existing theory seems inadequate (Eisenhardt, 1989). Within this research the voices of informants are most important, for contextual and theory building purposes (Strauss and Corbin, 1990), the interpretation of the researcher can be included.

This single case study with a holistic design (Yin, 2009) is chosen because this case has unique circumstances, the differences and the changes in the business models initiated by the product launch, in which a service provider launches a non-service product. The business model of a service provider can be different from the business model of a product (a non-service). Using this kind of context makes it particularly easy to look at the offerings separately and compare them and how they differentiate and relate to each other (Yin, 2009). By choosing a single case it was possible to get a longitudinal view (Yin, 2009), how certain conditions related to the product launch change over time, and what the effect was.

4.1 Research procedures and data sources

This qualitative data collection is conducted to obtain multiple perspectives on the product launch effort and the business model change twelve semi structured interviews were conducted. The earlier presented conceptual framework and the research questions gave guidance for the questions that were included in the interview. The Interview protocol is included in appendix B. Using semi-structured interviews allows for flexibility to alter from predefined constructs, in the case new insights emerge. Next to the interviews, secondary courses of information were used, internal documentation, business plans, sales data, and e-mail conversations. These data resources are used to clarify or to emphasize points of discussion that emerged from the interviews. These secondary data were used to discuss specific topics during the interviews but they were not separately included as data sources. Eight
interviews were conducted in a face to face conversation and recorded with a voice recorder. Four interviews were conducted in a telephone conversation because the respondents were located too far away, for example north Germany or in Asia. These interviews were held with the phone on speaker and a separate voice recorder next to it. The interviews were transcribed and range in minutes, on average 33 minutes. When the responded was Dutch the interview and transcription were done in Dutch, otherwise in English. During categorizing the interview quotes, the Dutch codes were translated in English. In two cases two interviews were conducted to complement the data and reflect on earlier findings. Respondents that were interviewed have different connections with Cargo BV and Lashcad. Because of confidentiality reasons the real names or company names are not used. Instead in the data the respondents are referred to with a two character code. With two respondents two interviews were conducted, for traceability reasons when referring back to the second interview the digit 2 is included after the person specific character code.

The CEO (WH and WH2) is the founder of Cargo BV and the initiator and developer of the Lashcad program. He is a very experienced technician with much knowledge and experience in the maritime world. With his knowledge and network the company grew and through his personality and drive to tackle all the problems the service and product develop every day. An internal engineer (BD and BD2) is working for Cargo BV since mid-2012. He started as general engineer for Cargo BV but over the time he developed himself to the person next to the CEO with much contact with all the clients of Cargo BV and Lashcad. When clients have a problem he is the person to go to. Two external experts were interviewed (MB and BW), they are both working on a freelance basis but regularly work for Cargo BV. MB has also done the Lashcad training. The Developer of Lashcad (AB) developed the program together with the CEO and is still doing the customer support. His knowledge gathered during development and all the questions encountered during his contact with customers make him a valuable source.

The other five respondents where all familiar with and Lashcad. Some are clients, others because they used to work with it. Respondent JA works in Germany for an international company that works on a daily basis with project cargo that has to be shipped around the world. The CEO introduced the program via a personal presentation in their office in Germany. The company started using the program approximately a year ago and was later introduced with, and is now client of as well.

An insurance company is always involved when such expensive and big cargo is transported. One of the largest insurance companies in the world also has departments in Asia, in one of these departments works an ex-colleague of the CEO. He (JK) is very experienced in the maritime world and works on a daily
basis with this kind of heavy cargo. During his previous work he was working with Lashcad and did similar work as. With his knowledge about heavy cargo, his experience of working with the program and currently working from a whole different side of the maritime world makes him a valuable source.

A large multinational, with production facilities in Germany have to transport much heavy cargo. This company has an own transport department. In this department RF is working. They are arranging the heavy cargo transport for the whole organization. From the insurance to the company who is actually doing the transport. In this work he uses Cargo BV but he is also working with Lashcad to control if method statements (plans on how to transport the cargo) are correct and safe.

The last two respondents (MS and CK) both work for shipping lines. They actually transport the cargo, it is also in their favor that the cargo is properly secured. They both use the Lashcad software to control for that. For all the cargo they want to transport a plan is made with Lashcad, and both companies have the program running on their ships so the captain can work with the program on site. When something changes during the loading this can be changed on the ship. MS is also hiring for survey jobs.

4.2 **Analytical approach**

During the data collection, the data was inductively analyzed, following the guidelines of naturalistic inquiry (Lincoln and Guba, 1985). Guba and Lincoln (1982) state that naturalistic inquiry offers a contextual relevance and richness unmatched by any other paradigm. “Finally, naturalistic approaches take full advantage of the not inconsiderable power of the human-as-instrument, providing a more than adequate trade-off for the presumably more “objective” approach that characterizes rationalistic inquiry” (Guba and Lincoln, 1982, p. 235). Using a real case, interviewing respondents with open-ended questions, and by calling them or visiting them at their office, the setting was familiar and comfortable to them. This enabled the respondent to speak “naturally” about what is known about the case. This enabled the researcher to investigate what was important to the respondent in this context. Using constant comparison techniques (Glaser and Strauss, 1967; Strauss and Corbin, 1990) it was possible to compare how different respondents perceived different actions or events during the launch process. Using constant comparison the new collected data can be compared with previous data and can be verified or clarified instantly. Coding of the first interviews started before all the interviews were conducted this enabled the constant comparison method. This provided the basis for rigorous collection and analysis of qualitative data. In the first coding round the interviews where coded, based on the codebook included in Appendix C. In the codebook all the business model aspects are included, the
distinction is made between the service and product business model aspects, the quotes can be related to the service offering or the product offering. Also the different launch phases are included as separate codes, every business model aspect related to the product also receives a product launch phase code. Finally, some general codes were included to identify important activities that cannot be included in other codes. The transcription of each interview was uploaded to the program NVivo (version 10). In this program it was possible to select a specific quote out of an interview and give it the right coding label. After reading all the interviews the program automatically made queries of all the quotes of one code. These queries were printed and examined again and the important words and sentences were highlighted. Per code the relevant quotes were included in a excel sheet. The source of the quote, the actual quote, the topic, and the product launch phase were included for of all the product related events. These topics are named first-order categories (Nag, Corley, and Gioia, 2007). The Dutch quotes were translated as literally as possible to English at this point. To validate the codes a second round of categorization was done. The excel sheet with the quotes was completely reviewed. Each quote was read and reviewed if it matched the initial coding. When initial coding deviated from the second round of coding because of ambiguity in definition of the business model aspects, the definition was revisited. The complete excel sheet was validated by a senior researcher, all the mismatches with the initial coding were discussed and finally in 100% of the cases we agreed on the business model aspect code as the given category. This extra step provided an independent perspective on the trustworthiness (Lincoln and Guba, 1985) of the coding scheme.

After the revision of the first-order categories with the corresponding quote codes, these were collapsed into language used that expressed similar ideas. The first-order categories were enabled to collapse them into distinctive groups, or 2nd order themes (Nag et al., 2007). To give structure to the in total 31 themes the initial business model coding was used to define the overarching dimensions (Nag et al., 2007). The initial coding is based on the nine business model aspects, these business model aspects can be clustered into four business model pillars (Osterwalder, 2004), namely; Value proposition, Customer interface, financial aspects, and infrastructure management, see Figure 4.1. By doing this the themes were categorized and the different offerings could be compared.
Figure 4.1 Four pillars in business model canvas
5 Emergent Findings

This chapter starts with a description of the Cargo BV case, based on the interviews the background and timeline are constructed. Afterwards the data is structured in two models. First a static model in which 31 themes are identified. Based on these themes a dynamic model is constructed. In Paragraph 5.3 sub-question 1a and 1b discussed and answered, by interpreting the dynamic model together with histograms based on the frequencies the business model aspects were discussed in the interviews. Paragraph 5.4 discusses sub-research question two.

5.1 Cargo BV case description

Cargo BV is specialized in the transfer of project cargo on sea voyages around the world. Project cargo is referred to as all the cargo which is not bulk (e.g. oil, sand, or iron ore) and does not fit in the standard sea containers. Project cargo could be for example windmill parts or heavy transformers, cargo of several hundred tons is no exception. During these sea transports the positioning on the ship together with the proper sea fastening is something Cargo BV is involved in. Clients, such as ship owners, freight forwarders, and insurance companies, are located all around the world. In this 24/7 worldwide business Cargo BV has proven to be a valuable player.

Cargo BV can provide engineering services such as stowage planning (where the cargo is located on the ship) or lashing and securing of a particular cargo (in what way is the cargo secured so it stays on the ship during the voyage). It is also possible to engineer a lifting plan, heavy loads can be difficult to lift and need engineering to do this properly, Cargo BV can also deliver that service. Cargo BV can also perform survey or cargo superintendent services, which is in most cases on behalf of a third party to control the (un)loading. A survey, is for example, when an insurance company could ask Cargo BV to attend at the specific (un)loading, this independent player, on behalf of Cargo BV has to give his/her approval on how it is lifted and secured on the ship for that particular piece of cargo. Cargo BV has experts worldwide to attend at those surveys. A cargo superintendent is a different form of survey on which, for example someone on behalf of Cargo BV, is responsible for all the cargo on the ship.

The founder saw the general tendency in the market that there was a lack of knowledge on lashing and securing during his work on the different vessels. There was a constant discussion on what was an appropriate number of chains and stoppers for a particular cargo. In general most people used a very simple freeware excel document to do some calculations, this is in the very conservative marine world
the largest competitor. Because many people did not have the proper knowledge the fastening is done many times the safety regulations because they said ‘better safe than sorry’. This let to high costs in man hours, materials, and waiting time of a ship. During his work as a master mariner (in most cases this were survey or cargo superintendent jobs) he came up with the idea to make a software program to help all the parties involved in lashing and securing different project cargo. The founder wanted a program with a visual interface that can calculate the proper amount of lashing and securing according to all the necessary regulations, worldwide.

The founder developed the program together with an external software developer in the period from 2008 to mid-2010, called Lashcad. All the necessary information on how to put it in the program and what regulations are important where investigated and included in the program. In mid-2010 the program was ready and launched. Mid-2011 the program received a registered trademark that all the calculations in the program where according their standards and this gave the program a boost in the trustworthiness. This was very important because decisions have to be made based on the program for cargo which can cost a fortune.

In mid-2012 a new module was launched named, stowage planning. With this module it was possible to make plans on how to fit all the cargo on a ship. Many potential clients use excel, Visio, or a different program to make these. This module can be purchased separately from the lashing and securing module but works with the same software and interface. To educate people in the market on how to work with the program, and give them the necessary background information an in-house training facility is opened mid-2013. The CEO explained the need for this training facility in a figurative sense: “I can give you the best navigation system in the world, but if you don’t know how to drive, it is useless”. Figure 3.1 illustrates the timeline of Cargo BV and marks the significant events that form the focus of this study. During this study the period from the start of Cargo BV until the present is evaluated.
5.2 Data analysis

This study tries to uncover how a service oriented firm could launch non-service products. To understand the data and events depicted from the interviews a data structure is formed. Figure 5.2 shows the data structure in which all the data provided by the respondents is categorized, Appendix D shows an overview of the respondents quotes. This data structure shows the underlying themes and categories of the overarching dimensions. These overarching dimensions as specified in the earlier presented conceptual model (Figure 3.1), formed the basis for structuring the data. The first-order categories, in Figure 5.2, are based on the respondents’ quotes. The first-order categories form the basis for the second-order themes. These second-order themes are important for analytical reasons (Nag et al., 2007), it shows a (static) picture of the decisions and processes in the case. The key activities and themes of the service and product offering are separated and categorized under one of the overarching dimensions. This data structure does not enable the researcher to analyze the process what occurred during the product launch process. Following Nag et al. (2007) by trying to understand what happened in the case, the key themes where analyzed further, resulting in a dynamic model, as can be seen in Figure 5.3. The rather static image of Figure 5.2 is converted into a dynamic model which made it possible to capture the dynamic process of this product launch process with the themes of Figure 5.2 as a basis. By focusing on the theme level this formed the bridge between the data, the researchers’ interpretation on the data, the research questions and the practical implications explained later in this study.
Figure 5.3 is a dynamic representation of the data structure, the content is based on the second-order themes of the data structure (Figure 5.2). In the dynamic data structure the bold words are the themes distillated from the data structure. The three phases as introduced in the conceptual model are used in this model, only adding a separate service column. The themes of the service column are distillated from the left side (service offering) of the data structure, the other phases are based on the right side (product offering) of the data structure. The first column, Expression of service offering business model elements, represents the service offering before, during, and after the product launch. By acknowledging this the service offering represents in the earlier conceptual model (Figure 3.1) the left column, this setting formed the starting point for developing and eventually launching the product offering. Since the service offering did not change radically during the product launch process the service offering column also represents the service offering in the new business model. Therefore in the dynamic structure the first column is separate from the other column to show the independency of the service offering in the process.

The product launch process, divided in three phases (as Figure 5.3 represents) forms eventually the business model for the product offering. Elements of importance during any of the phases are discussed in upcoming paragraphs and visually in Figure 5.3. The expression of product offering business model elements during pre-launch (second column) highlight the moment in which the idea of the product started and the values at that moment. These initiatives led to the important product offering business model elements during launch (third column) at the moment of and right after the launch. These values and decisions led to a number of expressions of product offering business model elements during post-launch (fourth column). In the next section, the key expressions of each column are discussed in detail. The bold sentences are the expressions as stated in the dynamic structure (Figure 5.3).
Figure 5.2 Data structure
5.2.1 Expression of service offering elements

In this phase the service offering is discussed, Cargo BV started roughly 7 years ago and over the years the offering developed itself and a distinctive way of working can be distinguished. The expression of service offering elements (first column, Figure 5.3) clarifies how the company is doing business, regarding the service offering and discusses prevalent themes. The organizational identity is relationship focused. The CEO started his career in the maritime sector. Over the years he worked with numerous companies and people and created a large relation database. In the maritime world, and especially with project cargo, it is no exception when cargo is worth tens of millions of euros, and weighs hundreds of tons. It is imaginable that the relation with a subcontractor is of uppermost importance. The CEO states: “it is always via-via. I’ll try to go via one to another, the loyalty factor has to be very high”. So with a good relationship with (possible) clients it is easier to get in contact and stay in the race.
for a specific assignment. Cargo BV is largely based on the contacts the CEO establishes with clients and many of them come from references or directly from former colleagues or people he used to work with. Going further on this the focus of the company is to sell their services with referential selling with only direct promotion. Sometimes a new client is approached via an old colleague, "I got in contact via an old colleague...they have a new company so I could introduce myself. Via-via you get to know each other, but I still have to prove myself.". There are other cases in which the software was the trigger, a client stated: "First he offered the Lashcad software. So that is how it started. [Afterwards introduced with Cargo BV]". For Cargo BV to get new clients direct promotion is used, this is done in the same way as elaborated on with referential selling. An engineer said: "lately I’m sending some e-mails with the question, do you have some work? We are expanding our network to other regions.". Within the network they have, Cargo BV tries to expand their client base. The attitude toward marketing is negative within Cargo BV. The focus on the relationship is expressed in foregoing quotes. The marketing of Cargo BV is limited to only direct promotion. The direct promotion within Cargo BV is mostly through calling and mailing with (possible) clients, and is not seen as marketing, it is seen as relation building. The CEO states regarding the marketing expenses, "in the past we’ve posted something on news clipping [maritime news blog], but nothing came back on that, wrong target group." And "there are not many people who use marketing, it makes no sense, it is always via-via. I’ll try to go via one to another, the loyalty-factor has to be very high". This states that marketing is only seen as advertising in a magazine and as something that does not work in this sector, it has to go through personal relationships. Cargo BV has several service capabilities such as its knowledge base, flexibility, charismatic owner, and a partnership network. A client states about the internal knowledge of Cargo BV, "I think that Cargo BV have proper people with proper expertise.”. An engineer refers to the flexibility, "I think we have the flexibility to always say yes, even if we don’t have somebody available, we say yes and find a way to get it done.". As in many SMEs the CEO is the driving force in the company, he has the network and the ability to convince clients. An external expert about the CEO, "when you speak to people it is his personality that comes through. He is the driving force, he sells the company. He has the ‘we can do anything’ attitude and he is the face of the company.". And in line with that the partnership network is predominately established with the network of the CEO.

5.2.2 Expression of product offering elements during pre-launch

The second column, Figure 5.3 focusses on the moment of idea conception and the development of the product offering. It started with a clear need for the program, the CEO refers to this, "we make
something, and then after that we don't have that complaining anymore.". The first idea was to make something he could use within his own company, because of time and money expenses he decided to sell it, in between those two decisions the thought was to distribute it freely. It is interesting to see that in many new product development processes many ideas come up and only a few make it to the market. Within this SME context with a product born out of own need all these steps are not taken. There was one idea and that is brought to the market. Because the changes in intentions with the program the **pricing has changed over time which led to differences in price perceptions**. As already said the first intention was to use it internally, but because it took many recourses and there were positive signals from the market the CEO decided to sell. The CEO stated "It is not based on that [revenue model], we looked at an affordable price.". "We started with a price of €799, which you have to pay every year again. We realized very soon that this was not the way, we started with €799 and a renewal fee of €199...In 2011 the program got certified, and we thought that was a good moment to increase the price to €1499 and a renewal fee of €399. That was decided at that moment, and we could justify that. The costs of certifying were high and it always stayed like this." It was for the CEO important to work with a price which is affordable for a freelancer. Still one of the interviewed freelancers said "I don't have enough work to justify buying the program". All the respondents with an office job were satisfied with the pricing and thought it is reasonable and fair.

The company has extensive technological capabilities and has thought himself to develop software. Because of this capability he could make many decisions on how to program everything, together with his ICT partner. The programmer said, "That is mostly decided by Lashcad [the layout and background is decided by the owner], he has a clear image on how he wants it.". And **due to this extensive technological capabilities the CEO strives to a high tech product appearance**, he states: "I am not happy the way the program looks right now, it looks a bit standard, I like a more futuristic appearance.". The CEO has the perception that it looks rather standard while many (possible) users do not have that much affinity with software and computers, it can be perceived as difficult because those users are not used to work with this kind of programs. A client states, "It takes a while before you can work with it, you have to practice and follow training, otherwise you get lost in the program.". The last block in the pre-launch column is about; **the ICT partnership and the knowledge network form a rigorous base.** During the development the CEO gathered the technological capabilities, "The knowledge that was needed I gathered in 2007 and 2008. I did some research, brought everything together and on why does it have to be like this.". He established an ICT partnership to physically make the program. And with his
network the CEO has gathered information about lashing and securing from (ex-)colleagues, engineering departments of former jobs, and a professor from Bremen.

5.2.3 Expression of product offering elements during launch

In this phase is seen what the company experienced after the product was launched, in Figure 5.3, column three. The CEO reflects on the time the product was launched: “I am not a commercial man, I have never done this before, thus it takes a while to learn everything. It was a continuous process, it came on the market and there it was.”. He made a website and people could buy it via credit card directly from the site. “We started with 1.8 million e-mail addresses, to generate publicity. After the first 25,000 I was blocked as spammer, and it was done.”. At the time of the launch the CEO spoke a lot of people on the ships so he made and distributed some folders. It turned out that these methods were not effective, there were hardly any sales directly via the site, everybody wants to have a quotation and more importantly they want to know the company and people behind the program. It is acknowledged that these techniques did not work out and the perceived aversion to marketing was not beneficial. “No, that is not useful, the market, the economy are in a crisis, and is not useful, word to mouth is the best way... It is not useful to advertise in a magazine.” in trying to sell as much products as possible the CEO used the techniques he is familiar with from his service (Cargo BV) which are referential selling and direct promotion, personally convincing people in presentations or face to face. A client stated; “He came over to our office in Bremen and he gave a presentation of the software, what possibilities it has and that is how it started.”. Word of mouth selling was a way that did work out, for the CEO because he could use his personal network to generate publicity for the product. It can be concluded that the lack of commercial experience resulted in copying the service selling technique (referential selling and direct promotion).

Actions to convince people of ease of use and to trust the program. Because many people want to try the program first, a demo was launched. “We decided to put a demo online, everyone could download it without us knowing who they were... On a certain moment we stopped with that method, when you want a demo you have to make yourself known.”. But this try it for yourself method has its downside, different interviewed customers make similar statements “when you see it for the first time, it looks pretty illogical.”. So by just giving them a demo with little help, the danger is that they find it too difficult or encounter a problem and drop the program, “You need to know what these persons know. They try it and maybe they find it difficult and stop with it. That is a missed opportunity.”. Other actions to convince people was by giving personal presentations. These presentations were labor intensive and did often
result in a training session which was/is required to show the benefits and trustworthiness. The CEO stated; "On a certain moment you are ready to give presentations, and you have to find a way to reach more people in a short time... most of the time the presentation ends up with a lashing and securing training because you have to explain what you did.". Going further on this, differences in user capabilities resulted in different perceptions of ease of use compared to surrogates. Some interviewed clients find the program easy and see all the advantages in efficiency and functionality of the program. "Lashcad is more concentrated, it saves your time as well, and the whole interface is just made for you to deliver it quickly. You have functions, you can change things. It is faster". Other respondents, for example users on board of the ships, their capabilities can be a limitation in accepting the program. "When you deal with German or Dutch companies, it is still surprising that the vessel is still not doing a lot of this stuff, the ship is not given the software, and they are just dealing with the office". As already said some see all the advantages while others still go back to old methods or use auto-cad instead. "When it is important, we still work with auto-cad... Lashcad is rougher, in auto-cad you can work with millimeters, which I don't see in Lashcad.". A client states; "It can be seen that they [captains] fall back on Lashcon [easy excel for calculations], they are used to it and they say it is easier.".

It is for the employees of Lashcad not common to initiate the contact with customers. An engineer said; "we do not make contact with our clients, they come to us when they have a request for a new ship or cargo image.". This refers to contact with existing clients who already have the program, a customer driven approach. To sell the product to people outside the personal network some acquisition is necessary, according to this the CEO made a statement, “we never contacted clients”. It can be concluded that limited acquisition is conducted within Lashcad (or Cargo BV), possible customers should come to the company instead of actively contacting them.

5.2.4 Expression of product offering business during post-launch

This phase discusses the fourth and last column in Figure 5.3 in which the responses on the decisions taken during and after the launch. Only referential selling and direct promotion constraints the customer acquisition. There was an aversion to marketing, "we are not doing anything with advertising or marketing". And it is perceived that direct promotion (Word of mouth) is the best way to market this product. This resulted in a personal selling method. The CEO started to give presentations to possible clients, because possible clients did not trust the program enough. The limited marketing Lashcad did was not enough to convince the personal relations of the CEO. He had to give presentations to convince his personal relations because; "When a surveyor is responsible, and you overrule him with Lashcad,
When you say that it is okay, when something went wrong you have to explain in court what you did."

With those labor intensive presentations the CEO managed to sell his product to his personal contacts, possibly because they trust him and therefore give him the opportunity to present his program, and clients were willing to spend (at least a little) time on his product to try it. To reach new customers without that personal connection proved to be difficult, because of the limited marketing strategy. As already elaborated on referential selling enables utilization of existing customer base, and grows slowly. Every work related connection of the CEO is familiar with the product and many of them attended a presentation, tried or currently use the program. Because of the marketing and selling strategy based on personal relationships it is proven to be very hard to sell products out of the relation database of the CEO.

The product was launched several years ago and over time a large diversity in user capabilities and needs can be identified. The capabilities of the users can differ significantly. As already quoted, a client who is familiar with engineering programs such as auto-cad states that captains find it difficult to work with. Those captains mostly use a simple excel-sheet and are not familiar with engineering programs. There was one client who always uses the program to make the calculations but uses auto-cad to make drawings because it is more detailed. "I always do it with Lashcad, I only use the old-school, and with that I mean auto-cad drawing, to make a better illustration. Some clients they want to see their cargo, and they want to have more details on the drawing for lashing so we do a separate but based on Lashcad." And surprisingly "Our Cargo BV standard is auto-cad and higher. The drawings look more professional and you can add more details.". From this it can be concluded that for some the program is very difficult (e.g. captains) and others (probably higher educated engineers) prefer the more detailed auto-cad to make drawings. So the program is not detailed enough for some and others find the program already very difficult.

But as already shown before, it can be difficult for unexperienced people to work with the program. That is why presentations have worked because the CEO has the opportunity to teach about the program and the theory behind the program. All the respondents express their need for some sort of training. The programmer expresses his concerns: "It is a good thing that he offers trainings, because it is a difficult program that is the risk with demos, because you have the risk that someone stops with it because he thinks that does not understand." The CEO has experienced that new customers need some help to convince them: “We have learned that you have to teach people to work with it, and that takes
time. Before I can convince you if it is useful, you have to know how it works.”. It can be concluded that the sale of the product has to be complemented by training.

5.3 The impact of business model aspects on the product launch

The next paragraph gives answer to the first two sub research questions. The first sub question is concerning to what extend does every business model aspect have an impact on the product launch process. And the second sub question adds the variable in which phase which elements are important. By simply counting the number of quotes in the data analysis per business model aspect, and combining these findings with the elements in the dynamic model these answers are formed. To give answer to the first sub question, in the Cargo BV case during the product launch process all the business model aspects were discussed at some point. Figure 5.4 gives an overview of all the quotes counted in the whole product launch process. In addition Figure 5.5 gives an overview of the second-order themes from the data structure used in the dynamic model. These themes are categorized under an overarching dimension, the business model pillars. The themes are bold and labeled with the two digit code as used in the coding scheme, which represents the corresponding business model aspect. The business model aspects are categorized by the corresponding business model pillar, which are counted per business model pillar for every phase to create another perspective.

Figure 5.4 Number of product launch process quotes per business model aspect

Looking at Figure 5.4 the value proposition and distribution channel are the most quoted business model aspects in the Cargo BV case. This would depict that the most quoted aspects were about what
value it has for the customers, how to get in contact with those customers and the perceptions the customers on the product and the distribution channels that are used. The number of business model aspect quotes does not directly show the impact it has on the product launch process. Adding the findings in Figure 5.5, looking at the three product launch phases (excluding the left column), infrastructure management pillar is mentioned six times. The value proposition and customer interface pillars are mentioned respectively each five and eight times. The fourth pillar, the financial aspects counted two times. This would imply that the impact between all the business model aspects is distributed in a more uniform way, during the whole product launch process. To conclude, all the business model pillars have an impact on the product launch process. All business model pillars are represented during the product launch process only to see the impact the time aspect is of importance. It is expected that during the different product launch phases the importance and impact of the business model aspects change.

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**Figure 5.5 Dynamic model with business model pillar counting**

Note: the visualization under each column represents the number of second-order categories (bold) in the elements per business model pillar
Going further on this, the second sub question can be answered. Every product offering quote has a business model aspect code as well as a product launch phase code (pre-, launch, or post-launch). By putting these business model aspects quotes in a chart per product launch phase it can be determined which business model aspects where most important in which phase. Adding the visualization of Figure 5.5 in which the dynamic model is analyzed to see which business model pillars are of importance over the phases. The first phase is the pre-launch phase, this phase includes all the decisions and activities before the actual launch. The chart of the pre-launch quotes per business model aspect is visualized in Figure 5.6.

![Number of quotes per business model aspect](image)

**Figure 5.6** Number of pre-launch quotes per business model aspect

In the pre-launch, the development of the idea and the product took place. All the quotes done in this phase are from people working for Cargo BV. In this phase there was no voice of the customer because they were simply unaware of the Lashcad software. In the pre-launch the value proposition was, as can be expected, of importance. The value configuration, capabilities, and partnership form together the infrastructure management (upper left side of the canvas, see Figure 4.1). This infrastructure management pillar is of importance in the pre-launch, within this pillar the partnerships and internal capabilities are created/formed to make the product, and it is evaluated what value should be created for the customer. As can be seen in Figure 5.6 all the infrastructure management aspects are discussed more compared to the customer interface pillar (upper right side of the canvas). The last two business model aspects (cost structure and revenue model) form the financial aspects, in a development process it is of importance to decide how to finance the product and how to sell it. That is why the financial aspects are also of great importance in the pre-launch phase. When looking at Figure 5.3 column 2...
(expression of product offering elements during pre-launch) one of the elements is based on the value proposition, one relates to the financial aspects, and the last two are infrastructure management activities which amplifies the statements that in the pre-launch the value proposition, infrastructure management, and financial aspects are most important.

The second phase is the launch phase, in which the product is first introduced to the customers. Figure 5.7 shows the business model aspects quotes.

![Business model aspects chart]

**Figure 5.7 Number of launch quotes per business model aspect**

As can be expected when a product is launched the attention shifts from making the product to how to bring it to customers. So the distribution channel aspect is an important topic of discussion in this phase. Also the revenue model is point of discussion because when selling the product the pricing is important. It was not possible, based on the data, to distillate one or more business model pillars. Only two aspects, from different pillars, were compared to the rest in the launch discussed more frequently. Looking at column three of the dynamic data structure model (Figure 5.3), the elements are mostly related to the ways of getting the product to the customer, and how to communicate with them. For example the selling method of the service is copied to the product offering, which clearly identifies the channel that the company uses to communicate with the customers. Several actions are taken to convince customers of the ease of use and the trustworthiness of the program. These actions are pointed towards getting the product to the customer and convince them to use/ buy it. The last element is the identification that Lashcad has a customer driven approach which can also be related to the distribution channel.
Summarizing all the elements in this phase accumulate to the findings in Figure 5.7 that the distribution channel and revenue model are most important during the launch phase, in the business model canvas.

The last and most discussed phase is the post-launch phase, the quotes per business model aspect are seen in Figure 5.8.

![Diagram of number of quotes per business model aspect](image.png)

**Figure 5.8 Number of post-launch quotes per business model aspect**

The value proposition is by far the most discussed topic in the post-launch. One explanation could be that in the post-launch many (all except one) external respondents were introduced with the product after the launch. This means that their opinion on the value of the product in the market is constructed in the post-launch and thus included in this table. There were three quotes from employees related to the value proposition in the post-launch, the rest of the statements are from external respondents. From this it can be concluded that the value proposition is important but Figure 5.8 gives a distorted view because of the amount of newly introduced customers in the post-launch phase. The other aspects that show relatively more discussion are the aspects of the customer interface pillar, namely; target customer, distribution channel, and relationship (the upper right side of the canvas, see Figure 4.1). During the post-launch period the customer is most important. The way the company can address them, the relation that can be established, and maybe most important who are the customers. Looking at column four of the dynamic data structure model (Figure 5.3) it can be seen that three out of four elements are concerning the customer interface pillar. One element is about value configuration, which is in the infrastructure management pillar, offering a training can provide more value to the customer,
thus in a way related to the customer. From this it can be concluded that this supports the premise that in the post-launch the customer interface is the most important.

To conclude, the first sub question was does every business model aspects have an impact on the product launch process? From the data it can be concluded that all the business model aspects have an impact on the product launch process. All the aspects are discussed during the different phases of the product launch process, only the attention shifts over the different phases. This opens up the discussion for sub research question two, how do these business model elements relate to the different phases of the product launch? In the pre-launch the value proposition and the infrastructure management are most important. Decisions have to be made regarding what is needed to make the product and how should it create value for the customer. Later in the process the value proposition stays of importance but the attention shifts towards the right side of the business model canvas, the customer interface pillar. The customer is central in this phase and the discussion is pointed towards how to sell it to them.

5.4 Synergy between the product- and service offering

The second research question in this thesis is how to launch a product in such a way that synergy is created between the product offering and the service offering? In the Cargo BV case it can be analyzed how the service and product offering have a level of synergy. And how they can proceed with both offerings in their portfolio. To form an answer to this question the data structure in a dynamic perspective (Figure 5.3) is used. Looking at the service offering column (the left column in Figure 5.3) an overview of the most important elements can be constructed. Going through the elements the organizational identity is relationship focused. With the focus on referential selling with only direct promotion. Within the organization is a negative attitude towards marketing. The service is proven to have significant service capabilities based on knowledge, flexibility, charismatic owner and a partnership network in which the service has proven itself to be valuable for customers.

Looking at the product offering, during the product launch process, similarities can be identified. Especially looking at the fourth and last column of the dynamic data structure, the reactions from the market on the actions from the company. On first glance synergy between the service and product can be seen. The product offering copied the service way of selling by selling the product with referential selling and direct promotion. These methods were known within the company and because the company lacked any other commercial experience this was a proven method for them. From this it can be concluded that between the service and product offering a high level of synergy is created, by using
the same selling and marketing method. Only the outcomes of these identical strategies are different for the service and the product offering. Selling a service offering this way is reasonable because a service needs some sort of personal contact and relationship. With referrals from existing customers the customer database of the service is extended. When selling a product, such as a software package, it is also reasonable to think that selling the product should be valuable to customers without having a personal relationship with the seller. Nevertheless the referential selling method in this case has enabled the company to utilize the existing customers of the service offering. Because there was a relationship the CEO was able to introduce the product to them. Using only this method this identified the constraints regarding customer acquisition. With only selling and marketing methods based on personal relationships it is proven to be difficult to reach out to all the unfamiliar possible customers, because this method is very time consuming. Apart from the question whether or not this product is able to be sold without this personal attention.

Selling the product using this technique was chosen because it was a proven concept within the company, but the market also asked for it. A large diversity in user capabilities is identified, customers with different capabilities have different needs. With the personal selling the company is able to focus on the right needs when selling the product. But this also limits the uniformity of the product, which limits the diffusion. All respondents stated that some sort of training is needed before they were able to use the product, some just a little others very intensive. This knowledge would justify the personal selling method because this method is suitable for giving this training. So questions arise whether or not it is possible to sell this particular product in a different way, because of the limitations in internal capabilities and the need question of customers for a personal training.

On first glance the service and product have a high level of synergy because the identical way of selling and market the product and service. But the outcome for both offerings are very different. This synergy is created because of the available capabilities and the proven concept from the service offering worked to reach out to existing customers but constraints the acquisition of new customers. The synergy in this case can be identified as only in an operational way (using the same techniques) and lacks synergy in strengthening the other offering (because the outcome is different).

How can the company proceed with both offerings in the portfolio, to utilize both offerings better? The service offering is, based on the respondents’ reactions, a valuable service which has significant service capabilities based on knowledge, flexibility, charismatic owner and a partnership network. To enhance the synergy and to let the offerings strengthen each other, the attention has to be on the product
offering. The used capabilities within the product offering are largely based on the service offering. When new customers need to be acquired other product related capabilities are needed. The different user capabilities require selling the product in a personal presentation because it is proven to be hard to send one uniform message that will address more segments, the needs differ per segment. The product is sold via the service selling method and again this creates synergy in the operation but to strengthen each other it may be valuable to use different techniques for the product offering. When using other techniques new customers can be attracted who are, most likely, also potential customers for the service offering. By expanding the ways to get in contact with potential customers a wider audience can be reached which is beneficial for both offerings. The need for training that all the respondents expressed is also a limitation for conquering the market, and which probably worked in the favor of giving presentations. Because the training is implicitly included in the personal presentations.

To conclude, between the service and product on first glance there seems to be a high level of synergy, because the same marketing and selling technique. Analyzing further the identical techniques, and the need for training limited the product offering to reach out for many new customers. And thus the two offerings do not strengthen each other in that way. When the product offering is sold and marketed more separately from the service offering new customers could be attracted for the product who are also potential customers for the service. A requirement for selling the product offering is that the dependency on the training need has to decrease. This could be done by making the product self-explanatory, or making different versions for different segments/ capability groups.
6 Discussion and conclusion

The last chapter in this thesis contains the conclusion and discussion of the results. The first sub chapter discusses the theoretical implications of this thesis. The second section discusses the case specific implications for the Cargo BV case. Subsequently, the limitations and suggestions for future research are presented, and finally a brief conclusion of this master thesis.

6.1 Theoretical implications

The first two sub research questions are which business model aspect have an impact on the product launch process and at which phase in the product launch process are they important. The business model aspects that have the highest level of importance are shifting over the product launch phases. In all phases of the product launch process the value proposition is shown as an important aspect. During the pre-launch the left side of the business model canvas, namely the infrastructure management gets more attention. Within this pillar the to be formed partnerships, the necessary internal capabilities and the value it should create for the customer are discussed. Later in the process (especially during the post-launch) the attention shifts towards the right side of the business model canvas (customer interface). The customer is central in this phase and the discussion is moving towards how to sell it to them. This is in line with previous product launch literature. Hultink et al. (1997) introduced the separation of strategic and tactical launch decisions in a product launch process. Some influential other studies adopted this separation (e.g. Di Benedetto, 1999; Frattini et al. 2013; Guiltinan, 1999; Hultink et al. 1997;Hultink et al. 1998; Lee et al. 2011). The strategic launch decisions, made early in the process (Hultink et al., 1997), are related to product, market, competition, and firm strategy. Relating back to the business model canvas, these strategy aspects are related to the value proposition (competition and market strategy) and the infrastructure management aspects, such as what value can the product add (product strategy) and how can we accomplish that with our capabilities or partnerships (firm strategy). Later in the process, according to Hultink et al. (1997) the tactical launch decisions are of importance. These tactical launch decisions are related to the 4 P’s (product, price, promotion, and distribution). The 4 P’s are decisions related to how to sell it to the customers. Relating back to the business model canvas, looking at the findings the business model aspects related to these 4p’s show more discussion. The value proposition is of importance and relates directly to the ‘product’ out of the tactical decisions. During the launch the financial aspects showed relatively more attention which discusses the ‘price’ aspect. The last
two aspects ‘promotion and distribution’ are discussed in the quotes of the customer interface pillar, which also showed more attention during the launch and post-launch phase.

To conclude, this study contributes to the literature by looking at a product launch with a new perspective, this perspective showed that all the business model aspects are discussed in a product launch but the attention shifts over time. The findings are in line with previous product launch literature (e.g. Di Benedetto, 1999; Frattini et al. 2013; Guiltinan, 1999; Hultink et al. 1997; Hultink et al. 1998; Lee et al. 2011). By proving that this perspective enabled the firm to include all the aspects of a product launch, different from existing methods, this study adds to the product launch literature a new perspective of analyzing and defining a product launch. This business model perspective could structure and prepare the company for the impact a product launch has on the existing business.

6.2 Practical implications

This paragraph discusses the practical implications. What could for example Chematronics, learn from this study? This study used the Osterwalder (2004) business model ontology to identify what aspects are important at which moment in time during a product launch. When a company wants to launch a new product looking all the business model aspects are of importance. Especially when the launched product is totally different from the existing offering(s). The focus that should be given to the business model aspects shifts during the product launch process. When for example Chematronics gives advice to a company who wants to launch a product that is different from the existing offerings the focus should always be, as can be expected, on the value proposition. In the beginning the infrastructure management aspects should have focus together with the financial aspects, later in the process the customer interface (or as other studies call it, the 4Ps) should be focused on. All of this could be expected but this easy to use business model concept could provide the structure an entrepreneur needs to structure all the variables needed to perform a product launch.

The specific implications for Cargo BV are based on the analysis and findings based on sub-research question 2 (Paragraph 5.4). The synergy between the service and the product is discussed. On first glance there seems to be a high level of synergy because the selling techniques, which were copied from the existing service offering to the product offering. Copying this service selling technique did not strengthen both offerings, it suits the service offering but hinders the product offering. This technique was useful to introduce it to existing service customers, because of the existing service relations this product could be sold as well. But for acquiring new customers this selling technique limits the diffusion
of the product. By reviewing the techniques used to sell the product a wider audience can be reached and the dependency on the personal relation can be reduced. This study comes up with three case specific implications which could enable Cargo BV to create synergy between the two offerings in a way it is favorable for both offerings. The implications are concerning the product offering, and titled; 1) expand the product sales force, 2) develop new capabilities and, 3) identify different customer segments.

The first implication for creating more synergy, and thus reviewing the product offering, is to expand the sales force of Cargo BV dedicated to Lashcad. For this implication no strategic changes are needed, and the structural dependency on training and relationships is not reduced, but it could boost sales because of the invested manpower. Increasing the sales force indicates that new people should be hired to conduct the personal presentations for clients around the world. Currently the number of presentations, and thus potential clients, are bounded by the time the CEO has to give these presentations. He is the person with the knowledge about the product, the market and capabilities to give those presentations. The to be hired sales force should have the same knowledge about the product, the market and should have the capabilities to give presentations to executives of large multi-nationals but also to skippers and dockworkers.

The second implication is to develop capabilities within the company to position the product offering more separately from the service offering. As found in the data the company lacks commercial experience and therefore the company copied the service selling techniques. When new capabilities are linked to marketing it should be possible to reach out for more new customers who are interested in the product. By only doing direct marketing and referential selling the target group is bounded by the customers the company is familiar with, and with a more marketing oriented approach it should be possible to reach out for customers who are not familiar with the service offering. This implication expresses the possibility to get in contact with more potential customers but does not reduce the need for training and the relationship dependency.

The third and last implication is to identify different customers segments. The first two implications are both to familiarize more potential customers with the product offering, but both do not address implications to reduce the dependency on training and relationship. The data revealed that there is a large diversity in user capabilities and needs. And the product has to be complemented by training. An implication is to link the market intelligence with the product development or product refinement. Customers with different capabilities have different needs and thus have different incentives to
purchase or try the program, but they all get the same product. This could have led to the need for training for people with less capabilities concerning software or the technical background. Customers who work with auto-cad on a daily basis should have less trouble working with Lashcad, others, for example a captain at a ship could encounter problems regarding the user interface. When these people both get a version directly specified to their needs the urge to train should lower. By clustering different segments based on their needs and user capabilities customers need less training and the perceived ease of use in general increases. The higher cluster, for example a transport engineer, have enough software and technical capabilities to fairly easily use the software program, with little to no training. To let a captain work with the same program takes in general more training, because of the different capabilities. And the captain does have other needs so why not providing him with a simplified or specific version. This should reduce the need for training and increases the ease of use for that specific segment.

To conclude, more synergy can be created by reviewing the way new customers of the product offering are addressed. By doing this differently from the service selling technique more and other people can be reached. This can be done by expanding the sales force, or by developing new marketing/ commercial capabilities. The need for training because of different user capabilities can be lowered by offering a segment specific version which should minimize the need for training and maximize the ease of use for each segment.

6.3 Limitations and suggestions for future research

As every study this study is not free of limitations. The identification of limitations can qualify this study, and can be the starting point for future research. The most obvious limitation is the decision to focus on one case. This decision enabled to go in depth in the decisions and transition over the years but limits the generalizability to other companies or industries. The implications are applicable to the Cargo BV case, and a suggestion for future research is to investigate if the implications are applicable to other companies or can be generalized to be applicable for a wider audience.

Another limitation is the uniformity of clients. The clients that were interviewed were all familiar with both the service as the product of Cargo BV. All of them have or had licenses, so they all saw the advantages of the product. This is an advantage because they all know what the product can contribute to their business and can also identify the barriers they encountered over time. But still these findings should be verified with (potential) customers who are not familiar with the product and/or service to
see if their needs match with the (maybe biased) needs of existing customers. The existing customers can be biased because of the existing relationship with the company or the CEO personally, which can change the perception of those customers to the selling intentions compared to new customers.

The existing relation with the service has proven to be a very influential factor when the product has a similar learning curve. And in many cases the perceived value to the customer can only be seen because of the experience with the service. Is this previous relationship also important when the product is perceived to be easy to use (no learning curve at all) in a similar context? Again by focusing on only one case, with a product with learning curve, this can be identified as a limitation for this study but can be a topic of future research. Another suggestion for future research is concerning the trust in company aspect, trust has been a topic of many scholars. And many definitions of trust are used and according to some studies trust is a multi-dimensional concept. It would be valuable to know what if there are differences in the kind of trust clients experience and how does this relate to the service and product offering of the company. The product in this single case study is a software product. Can similar effects be found in a case in which a service oriented firm launches a physical product that is not software? This could be a topic of future research.

6.4 Conclusion

This master thesis identified how a product launch is carried out from a business model perspective. The research question in this study is; how does a service oriented firm launch non-service products next to their established service business? To answer this question the first sub-research questions revealed that it was possible to see a product launch with a business model perspective and that during the product launch process all the business model aspects are of importance. The second sub-research question revealed that, during the pre-launch phase, the attention is predominantly on the value proposition and the infrastructure management. During the launch this attention shifts towards the revenue model and the distribution channel. During the post-launch phase, the attention shifts towards the customer interface. The value proposition remains of great importance.

The second research question, the synergy between the service and the product offering. This revealed that in the Cargo BV case, there seems to be a high level of synergy in the adopted marketing and selling approach, increases operational efficiency. But this hinders the diffusion of the product more than it contributes to widespread adoption. To create more synergy that contributes to both offerings, the way the company should address customers about the product offering is reviewed. By doing this differently
from the service selling technique more and other potential clients can be reached. This can be done by expanding the sales force, or by developing new marketing/commercial capabilities. However, to implement these recommendations effectively, specific characteristics of the product should be adapted to be make widespread (re-)introduction of the product possible. Initial barriers to use the product, such as needed training and perceived complexity have to be lowered.

This research shows that business model perspective is useful to evaluate the product launch process. Firstly, to create valuable insights, on which business model elements to focus at which point in time. Secondly, to evaluate other options that could have been chosen during the launch process that might have led to different/better results. Because of the single case study approach, one should be careful with generalization of the results. Still, this study provides valuable insights and offers promising opportunities for further research.
7 Bibliography


8 Appendices

8.1 Appendix A, Literature overview
<table>
<thead>
<tr>
<th>Business model elements</th>
<th>Product launch literature concept (only empirical quantitative studies)</th>
<th>Definition (With * are definition based on own perceptions based on corresponding study(s))</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value proposition</td>
<td>A Value Proposition is an overall view of a company’s bundle of products and services that are of value to the customer</td>
<td>Refers to a new product, generally containing new technologies, that significantly changes behavior and consumption patterns. Refers to the relative advantage of a product compared to competitors. Relative innovativeness compared to competitors.</td>
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<tr>
<td></td>
<td></td>
<td>The number of competitors in the market. The types of competitors a new product faces, categorized by order of entry and sub market.</td>
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<td></td>
<td></td>
<td>A firm's desire and effort to influence development of industry standards, to position its products as the market criterion, and to resolve market uncertainty in its own favor.</td>
<td></td>
</tr>
<tr>
<td>Target Customer</td>
<td>The Target Customer is a segment of customers a company wants to offer value to</td>
<td>Customer innovativeness refers to the measures of domain-specific innovativeness and general innovativeness of a specific group.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cultural mores bound the perceptions and behaviors that define the respective society and can include calendar (holidays and events), relationships, things, and time elements.</td>
<td></td>
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<td></td>
<td></td>
<td>Language encompasses the nomenclature surrounding communication with the respective society. These include words and colloquialisms, colors, numbers, and symbols.</td>
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<tr>
<td></td>
<td></td>
<td>Diffusion barriers related to customers. Diffusion barriers can be understood as obstacles hindering the innovation's diffusion in the marketplace. Reasons why customers would not adopt the innovation.</td>
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<td></td>
<td></td>
<td>Launch activities targeted to customers as the external audience. Three types of preannouncement strategy are identified: customer education, anticipation creation, and market creation preannouncement (Lee and O'Connor, 2003a).</td>
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<tr>
<td></td>
<td></td>
<td>Distribution channels (launch tactic) The way the product is getting in touch with the consumer. Trade promotion, Public relations, Promotion expenditures, Personal selling, Print advertising, Trade shows, Radio advertising, Direct marketing</td>
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<td></td>
<td></td>
<td>Exclusive, intensive, selective.</td>
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<tr>
<td>Business model elements</td>
<td>Product launch literature concept (only empirical quantitative studies)</td>
<td>Definition (With * are definition based on own perceptions based on corresponding study(s))</td>
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</tr>
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<tr>
<td></td>
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<td>Exclusive, intensive, selective.</td>
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</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>Relationship</th>
<th>Lead users</th>
<th>Gartner and Thomas, 1993</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>The Relationship describes the kind of link a company establishes between itself and the customer</strong></td>
<td>Launch activities targeted to internal audience, such as management and sales personnel</td>
<td>Kuester et al., 2012</td>
</tr>
<tr>
<td><strong>Internal launch activities</strong></td>
<td>Where the idea of the product/service originates from. The two main drives of NPD: market drivers (Pull) and technology drivers (Push)</td>
<td>Kuester et al., 2012; Calantone and Di Benedetto, 2012; Hultink et al., 1998; Hultink et al., 1997; Parry and Song, 1994</td>
</tr>
<tr>
<td><strong>Driver of new product development (launch strategy)</strong></td>
<td>The firm makes small commitments of resources, slow manufacturing ramp-up, and limited commitment of inventory during rollout (Calantone et al. 2005)</td>
<td>Calantone and Di Benedetto, 2012</td>
</tr>
<tr>
<td><strong>Lean launch</strong></td>
<td>refers to the timing of the launch</td>
<td>Calantone and Di Benedetto, 2012</td>
</tr>
<tr>
<td><strong>Launch timing</strong></td>
<td>Such as market testing, sales force training, and advertising execution, as well as effective communication among functions on the new product team,</td>
<td>Calantone and Di Benedetto, 2012</td>
</tr>
<tr>
<td><strong>Marketing effort</strong></td>
<td>Relates to the activities required to test both the physical product and the launch tactics in the target market</td>
<td>Langerak et al., 2004; Di Benedetto, 1999; Greenley and Bayus, 1994</td>
</tr>
<tr>
<td><strong>Market testing</strong></td>
<td>Marketing communications: Market testing throughout the NPD process yields key information about likely customer adoption and production ramp-up at the launch phase.</td>
<td>Chen, 2011</td>
</tr>
<tr>
<td><strong>Market information gathering</strong></td>
<td>Determines the speed, shape, and extent of the diffusion of new products (Gatignon &amp; Robertson, 1991).</td>
<td>Taike and Hultink, 2010A; Langerak et al., 2004; Di Benedetto, 1999; Parry and Song, 1994; Gartner and Thomas, 1995; Redmond, 1999</td>
</tr>
<tr>
<td><strong>Marketing communications strategy</strong></td>
<td>Comprising decisions that set the parameters within which the new product will compete: (1) define the objectives of the launch; (2) select the markets into which the new product will be introduced; and (3) determine the competitive position of the new product (Beard and Easingwood, 1996; Hultink et al., 1995, 1999).</td>
<td>Bruce et al., 2007; Rodriguez-Pinto et al., 2007; Hultink et al., 1997; Parry and Song, 1994</td>
</tr>
<tr>
<td><strong>Launch strategy</strong></td>
<td>Infrastructure: Technology standards within given product categories will place constraints on applicable product attributes.</td>
<td>Rodriguez-Pinto et al., 2007; Oakley, 1996</td>
</tr>
<tr>
<td><strong>Order of entry, innovation strategy (launch strategy)</strong></td>
<td>Four categories were established: “pioneer”, “one of the pioneers”, “early follower” and “late entrant”</td>
<td>Rodriguez-Pinto et al., 2007; Oakley, 1996</td>
</tr>
<tr>
<td><strong>Scale of entry</strong></td>
<td>A firm executing a new product launch may opt for a full-scale entry or for a sequential rollout (Thomas, 1993; Kalish et al., 1995). Overseas launch.</td>
<td>Langerak et al., 2004; Di Benedetto, 1999; Gartner and Thomas, 1993</td>
</tr>
<tr>
<td><strong>Launch tactics</strong></td>
<td>Involve the tasks related to the marketing mix decisions (i.e., product tactics, distribution, pricing, and promotion) on how to launch the new product.</td>
<td>Hultink et al., 1997; Hultink et al., 1998</td>
</tr>
<tr>
<td><strong>Branding (launch tactic)</strong></td>
<td>The type of branding used, new, extension, company name or no brand.</td>
<td>Hultink et al., 1997; Hultink et al., 1998</td>
</tr>
<tr>
<td><strong>Product assortment (launch tactic)</strong></td>
<td>The assortment of the product compared to competitors.</td>
<td>Kuester et al., 2012; Taike and Hultink, 2010; Oakley, 1996</td>
</tr>
<tr>
<td><strong>Size of the company</strong></td>
<td>The higher the number of employees the bigger the company. Note: is a proxy for resources (e.g., physical resources, human resources, and organizational resources)</td>
<td>Fu et al., 2010</td>
</tr>
<tr>
<td><strong>Sales person self efficacy</strong></td>
<td>We define self efficacy as salespeople’s perceptions of their own ability to sell the new product or their beliefs that they possess the skills and resources necessary to succeed during the new product launch (Brown, Jone, and Leigh 2005).</td>
<td>Taike and Hultink, 2010B</td>
</tr>
<tr>
<td><strong>Capability</strong></td>
<td>Diffusion barriers can be understood as obstacles hindering the innovation’s diffusion in the marketplace. Reasons why own people would not adopt the innovation. Describes a firm’s general posture toward corporate behavior and performance.</td>
<td>Taike and Hultink, 2010A</td>
</tr>
<tr>
<td><strong>Diffusion barriers that are internally focused</strong></td>
<td>A firm must possess an adequate level of marketing, sales, advertising, R&amp;D, engineering, and manufacturing skills in order to be able to carry out activities in a given NPD project. The ability to determine when to stop (escalation of commitment) and to perform an accurate forecast</td>
<td>Di Benedetto, 1999, Oakley, 1999, Boulding et al., 1997; Gartner and Thomas, 1953</td>
</tr>
<tr>
<td><strong>Corporate mindset</strong></td>
<td>The intensity of the salesforce actions compared to competitors.</td>
<td>Hultink et al., 1997</td>
</tr>
<tr>
<td><strong>Firms skill and resources</strong></td>
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<tr>
<td><strong>Partnership</strong></td>
<td>External organizations</td>
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<tr>
<td><em>A Partnership is a voluntarily initiated cooperative agreement between two or more companies in order to create value for the customer</em></td>
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<tr>
<td>Diffusion barriers to suppliers and dealers</td>
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<tr>
<td>Collaborative ventures</td>
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<tr>
<td>Through the establishment of partnerships and cooperation agreements</td>
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<tr>
<td>Diffusion barriers can be understood as obstacles hindering the innovation's diffusion in the marketplace. Reasons why suppliers or partners would not adopt the innovation. *</td>
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<tr>
<td><em>Das and Teng (2000) contend that members of an alliance can bring together dissimilar resources leading to complementary resource alignment, which may then have a positive effect on the collective strength of the alliance.</em></td>
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<tr>
<td>Frattini et al., 2013</td>
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<td>Talke and Hultink, 2008</td>
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<td>Talay et al., 2009</td>
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<table>
<thead>
<tr>
<th><strong>Cost Structure</strong></th>
<th>Launch budgeting</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>The Cost Structure is the representation in money of all the means employed in the business model</em></td>
<td></td>
</tr>
<tr>
<td>Distribution expenditures (launch tactic)</td>
<td></td>
</tr>
<tr>
<td>Parties to a budgeting task required to develop, to implement, and to monitor launch strategy and tactics. And Forecasting</td>
<td></td>
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<tr>
<td>Compared to competitors *</td>
<td></td>
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<tr>
<td>Langarak et al., 2004; Gartner and Thomas, 1993</td>
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<td>Hultink et al., 1997; Hultink et al., 1998</td>
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</table>

<table>
<thead>
<tr>
<th><strong>Revenue Model</strong></th>
<th>Pricing strategy (launch tactic)</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>The Revenue Model describes the way a company makes money through a variety of revenue flows</em></td>
<td></td>
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<tr>
<td>Price level (launch tactic)</td>
<td></td>
</tr>
<tr>
<td>One of the major determinants of buyer choice. Strategy evaluated based on two dimensions: (1) whether the pricing objective is increasing profit margin or maximizing sales/market share, and (2) if promotion discount pricing is offered. Skimming or penetration</td>
<td></td>
</tr>
<tr>
<td>The price compared to competitors *</td>
<td></td>
</tr>
<tr>
<td>Lee et al., 2011; Hultink et al., 1998; Hultink et al., 1997; Redmond, 1989</td>
<td></td>
</tr>
<tr>
<td>Hultink et al., 1998; Parry and Song, 1994</td>
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</tr>
</tbody>
</table>
8.2 Appendix B, interview protocol

1. Can you tell something about yourself and your organization?
   a. Company profile
   b. Function
   c. Role in Chain
   d. Handling project cargo

2. Service
   a. When do you use a company like GCC?
   b. When, how, why, advantage, expectation
   c. When using a service like GCC
   d. When initial contact
   e. Example jobs
   f. Why chose for GCC, what is unique, solving the problem
   g. Target group
   h. Relation (how often, which channel, how to maintain)
   i. Financial treatment (compared)

3. Product
   a. When, how, why, advantage, expectation
   b. When using VCC
   c. When initial contact
   d. Example jobs
   e. Why chose for VCC, what is unique, solving the problem
   f. Target group
   g. Relation (how often, which channel, how to maintain)
   h. Financial treatment (compared)

4. How to combine VCC and GCC (or companies like GCC)?
   a. How to combine, how together, where emphasis
   b. Chances and difference in relation to before VCC
   c. What is unique about the program, why would you use it?
   d. What where your expectations?

5. How do you see the future with GCC and VCC as partner?
   a. What can be improved
   b. What is ideal
### Appendix C, interview codebook

#### Codebook Transcription interviews

**Business model codes**

<table>
<thead>
<tr>
<th>Code</th>
<th>Tag</th>
<th>Description (Osterwalder, 2004)</th>
</tr>
</thead>
<tbody>
<tr>
<td>P or S VP</td>
<td>Value proposition</td>
<td>A Value Proposition is an overall view of a company’s bundle of products and services that are of value to the customer. Why choose the offering over another.</td>
</tr>
<tr>
<td>P or S TC</td>
<td>Customer interface</td>
<td>Target customer</td>
</tr>
<tr>
<td>P or S DC</td>
<td>Distribution channel</td>
<td>A Distribution Channel is a means of getting in touch with the customer</td>
</tr>
<tr>
<td>P or S RS</td>
<td>Relationship</td>
<td>The Relationship describes the kind of link a company establishes between itself and the customer</td>
</tr>
<tr>
<td>P or S VC</td>
<td>Value configuration</td>
<td>The Value Configuration describes the arrangement of activities and resources that are necessary to create value for the customer. All the strategic and tactical decisions to deliver the offering. Based on Porter’s value chain.</td>
</tr>
<tr>
<td>P or S CA</td>
<td>Infrastructure management</td>
<td>Capability</td>
</tr>
<tr>
<td>P or S PA</td>
<td>Partnership</td>
<td>A Partnership is a voluntarily initiated cooperative agreement between two or more companies in order to create value for the customer</td>
</tr>
<tr>
<td>P or S CS</td>
<td>Financial aspects</td>
<td>Cost structure</td>
</tr>
<tr>
<td>P or S RM</td>
<td>Revenue model</td>
<td>The Revenue Model describes the way a company makes money through a variety of revenue flows</td>
</tr>
</tbody>
</table>

**Time based codes**
<table>
<thead>
<tr>
<th>Code</th>
<th>Tag</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre</td>
<td>Pre-Launch</td>
<td>all the activities (including R&amp;D) executed before the point of the actual launch</td>
</tr>
<tr>
<td>Lau</td>
<td>Launch</td>
<td>All the activities from the launch until all the directly related launch tasks are finished</td>
</tr>
<tr>
<td>Post</td>
<td>Post-Launch</td>
<td>All the activities after the launch phase is finished until the end of the product life cycle</td>
</tr>
</tbody>
</table>

**General codes**

<table>
<thead>
<tr>
<th>Code</th>
<th>Tag</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>activity event</td>
<td>Factual activities that have taken place during the product launch process, such as administrative meetings, budget meetings, evaluation meetings, strategy meetings, milestones, communication of progress, doing market research, doing technological research, executing risk assessments, scheduling, conducting field trials, etc.</td>
</tr>
<tr>
<td>P</td>
<td>people event</td>
<td>Change in the people involved with the product launch process or in the way they are related to each other or the process (for instance contract changes). This can be a change in the product design team, such as the entrepreneur or designers involved, but can also relate to other key people in the environment of the project that might affect the project.</td>
</tr>
<tr>
<td>Case</td>
<td>Case description</td>
<td>A description by the informant of his/her own function and company.</td>
</tr>
</tbody>
</table>
## 8.4 Appendix D, overview respondents quotes

<table>
<thead>
<tr>
<th>First-order categories and Second-order themes</th>
<th>Corresponding quote</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Overarching dimension: Service value proposition</strong></td>
<td></td>
</tr>
<tr>
<td><strong>1. Total concept</strong></td>
<td></td>
</tr>
<tr>
<td>AL. Total concept</td>
<td>&quot;Cargo BV has the total concept from engineering until delivering the people and the documentation afterwards.&quot; (BD 2, SVP 1)</td>
</tr>
<tr>
<td>AJ. Completeness of service</td>
<td>&quot;I never thought of it, that by selling Lashcad, something could come up for Cargo BV. In the beginning I saw them apart from each other. We make software, we sell it and that's it.&quot; (WH, SVC 1)</td>
</tr>
<tr>
<td><strong>2. Willingness to expand</strong></td>
<td></td>
</tr>
<tr>
<td>AK. Recourse allocation</td>
<td>&quot;As a freelancer, I wanted to do only super cargo. I used to work at a survey company so I did not want to be their rival. When they started to hinder me, I started to do some surveys. On a certain moment I had the opportunity to get more work, I hired someone to do a job, but I did the engineering and calculations... at one moment I said, I stay home and I plan and prepare the jobs, and send other people.&quot; (WH 2, SVP 1+2)</td>
</tr>
<tr>
<td><strong>Overarching dimension: Service customer interface</strong></td>
<td></td>
</tr>
<tr>
<td><strong>3. Target customers</strong></td>
<td></td>
</tr>
<tr>
<td>AL. No segmentation</td>
<td>&quot;everyone with heavy cargo&quot; (BD 2, STC 1)</td>
</tr>
<tr>
<td><strong>4. Negative towards marketing</strong></td>
<td></td>
</tr>
<tr>
<td>AM. No active acquiring</td>
<td>&quot;because he [the CEO] is not going to the jobs anymore, he is not getting in contact with the market. He does not hear any names, only some reports. Sometimes we get a job because someone saw a report or because someone recommended us. But we are not going to call some people...On this moment we are not actively acquiring.&quot; (BD 2, SDC 1)</td>
</tr>
<tr>
<td>AN. No advertising</td>
<td>&quot;there are not many people who use marketing, it makes no sense, it is always via via. I'll try to go via one to another, the loyalty factor has to be very high&quot; (WH 2, SDC 4)</td>
</tr>
<tr>
<td><strong>5. Direct promotion</strong></td>
<td></td>
</tr>
<tr>
<td>AO. Direct marketing</td>
<td>&quot;how did you get in contact with clients? Via e-mail, telephone and Via Via.&quot; (WH 2, SDC 1)</td>
</tr>
<tr>
<td>AP. Word to mouth</td>
<td>&quot;I've heard about Cargo BV, I think the year before, a colleague of mine did some work for them.&quot; (MB, SDC 1)</td>
</tr>
<tr>
<td><strong>6. Referential selling</strong></td>
<td></td>
</tr>
<tr>
<td>AQ. Referential</td>
<td>&quot;there are not many people who use marketing, it makes no sense, it is always via via. I'll try to go via one to another, the loyalty factor has to be very high&quot; (WH 2, SDC 4)</td>
</tr>
<tr>
<td>AR. Network</td>
<td>&quot;I got in contact via an old colleague...they have a new company under them so I could introduce myself.&quot;</td>
</tr>
</tbody>
</table>
AS. Software first buy
"First he offered the Lashcad software. So that is how it started. [afterwards introduced with Cargo BV]" (JA, SDC 3)

AT. Market research
"Lately it is more common to investigate what is behind the program [Lashcad]. For example what does the company, a client is using the software but is still finding troubles with it, and after a visit we are doing a lot of engineering work for them. Via the software getting work for Cargo BV." (WH, SRS 1)

7. Relationship focused
AU. Customer relationship
"there are not many people who use marketing, it makes no sense, it is always via via. I’ll try to go via one to another, the loyalty factor has to be very high" (WH 2, SDC 4)

AV. Relation management
"a client calls, you don’t have to send an invoice when it is fixed immediately without much effort. Another would send an invoice immediately, I say, call me when something comes up." (WH 2, SRS 3)

AW. Trust
"a client calls, you don’t have to send an invoice when it is fixed immediately without much effort. Another would send an invoice immediately, I say, call me when something comes up." (WH 2, SRS 3)

Overarching dimension: Service infrastructure management

8. Service capabilities
AX. Knowledge
"I think that Cargo BV have proper people with proper expertise." (JK, SVP 1)

AY. Flexibility
"I think we have the flexibility to always say yes, even if we don’t have somebody available, we say yes and find a way to get it done." (BD 2, SCA 3)

AZ. Charisma owner
"when you speak to people it is his personality that comes through. He is the driving forces, he sells the company. The we can do anything attitude and he is the face of the company." (MB, SVP 1)

9. Partnership network
BA. External experts
"Well, I’m working for myself, and predominately I work for three companies, 99 percent of my work is through three companies and one of them is Cargo BV" (MB, SPS 1)

BB. ICT
"I wrote some software for that, predominantly web applications." (AB, SCA 1)

Overarching dimension: Service financial aspects

10. Frame agreements
BC. Frame agreements
"We have frame agreements, this is what we have and this is what we can do for you, according to this method, and with these costs. That’s it" (WH 2, SRS 2)

11. Pay per hour model
BD. Pay per hour
"we have frame agreements, this is what we do for you….via pay by the hour" (WH 2, SRM 1+2)

12. Mid-range pricing
BE. Mid-range pricing

13. Invest in future

BD. Invest again

"Yes it is, it is in the mid-range" (RF, SRM 1)

"everything we earn we will invest again." (WH 2, SCS 1)

Overarching dimension: Product value proposition

14. Ease of use (-)

A. User capabilities (-)

"If you are not working on a daily basis with Lashcad it would be difficult." (RF, PVP3)

B. Efficiency (-)

"sometimes you have just the box shape for example and sometimes you have deadlines and you don't have time to insert every view in Lashcad so it is faster to just to do just the box shape and do the auto-cad drawing separately because the ask it anyway." (JA, PVC 6)

C. Functionality (-)

"when it is important, we still work with auto-cad... Lashcad is rougher, in auto-cad you can work with millimeters, which I don't see in Lashcad." (CK, PCA 2+3)

15. Ease of use (+)

D. Efficiency (+)

"Lashcad is more concentrated it saves your time as well, the whole interface is just made to for you to deliver it quick." (JA, PVC 2)

E. Functionality (+)

"You can visualize, you can see everything, the angles are there and you can change anything according to IMO or DNV. It is easy to understand."(CK, PVC 6)

16. Clear need

F. Clear problem identification

"A surveyor has the tendency to lash three or four times the necessary amount, which can be very costly" (MS, PVP 2)

G. Wish for standard

"In the beginning was the goal, to make something to create a standard." WH, PVP 4)

17. Surrogates

H. Perceived only one

"It is the only program [Lashcad] who has it all [lashing and securing], on this moment there is no other product who can do this visually, and it is certified." (WH2, PVP 2)

I. Price

"Many people work with Lashcon, it is cheap, you can download it and you can start." (CK, PVP 1)

J. Functionality

"Our Cargo BV standard is auto-cad and higher. The drawings look more professional and you can add more details." (WH, PVC 6)

18. Trust in program

K. Credibility

"When a surveyor is responsible, and you overrule him with Lashcad, when you say that it is okay, when something went wrong you have to explain in court what you did." (MS, PVP 2)

L. Complementarity

"just for controlling, not for making plans of our own" (RF, PVC 1)

Overarching dimension: Product customer interface

19. User capabilities
M. On board capabilities

"The difference is that we sail with cheaper flag countries, who poses less knowledge." (WH, PTC 7)

N. Customer knowledge

"you have to take in consideration that people work with it who are not that experienced with computers" (AB, PVC 5)

20. Customer driven approach

O. Customer contact

"we do not make contact with our clients, they come to us when they have a request for a new ship or cargo image." (BD, PRS 1)

P. Customer service

"we just ask it when there is something and we get an answer very fast" (CK, PRS 1)

21. Referential selling

Q. Personal selling

"He came over to our office in Bremen and he gave a presentation of the software, what the work possibilities it has and that is how it started." (JA, PDC 1)

R. No acquisition

"This was not common [to acquire clients form Cargo BV], I think our clients knew that we also had the program, but we did not remind them every time, did you hear about our program, there was nearly no active acquisition." (BD, PDC 3)

22. Direct promotion

S. Advertisement

"People find us via internet, via the website... we made a web shop with it, people could download it via internet." (WH, PDC 5+6)

T. Word to mouth

"via via, I heard via a surveyor that there was someone was developing a program, and I started searching and found Lashcad." (MS, PDC 2)

U. Sales promotion

"We decided to put a demo online, everyone could download it without us knowing who they were... On a certain moment we stopped with that method, When you want a demo you have to make yourself known." (WH, PDC 7+8)

Overarching dimension: Product infrastructure management

23. technological capabilities

V. ICT capabilities

"For years I am working with computers, internet, software and the development of that. All the knowledge I conducted in the last years on ICT helps me every day with everything that is happening" (WH, PCA 3)

W. Technological capabilities

"The knowledge that was needed I gathered in 2007 and 2008. I did some research, brought everything together and on why does it have to be like this.(WH, PCA 1)"

24. Lack of commercial experience

X. No commercial experience

"I am not a commercial man, I have never done this before, thus it takes a while to learn everything. It was a continues process, it came on the market and there it was." (WH, PCA 5)

25. Need for training
Y. Need for training

"It takes a while before you can work with it, you have to practice and follow a training, otherwise you get lost in the program." (CK, PVC 2)

Z. Effectiveness of demo

"It is a good thing that he offers trainings, because it is a difficult program, that is the risk with demo’s, because you have the risk that someone stops with it because he thinks that does not understand." (AB, PDC 2)

26. Program appearance

AA. Program appearance

"I am not happy the way the program looks right now, it looks a bit standard, I like a more futuristic appearance." (WH, PCA 7)

27. Knowledge Network

AB. Info gathering

"My colleagues supercargo and colleagues from the engineering departments. I know these guys, I just ask them what is your interest, what do you need when you are working with lashing and securing." (WH, PVC 2)

28. ICT partnership

AC. ICT partnership

"Initially we started this together, we started Lashcad as a partnership... after 1.5 year or something he said that he wanted to do this alone, he wanted to be the owner so we agreed on a buy-out." (AB, PPA 1)

Overarching dimension: Product financial aspects

29. Different price perceptions

AD. Fair pricing

"I think it is a fair price, I mean if you compare it with other software like auto-cad, other software which we work with is also expensive." (JA, PRM 1)

AE. High for freelancer

"I said I don't have enough work to justify buying the program, for the license and the fee...I think for somebody like mine my side were you get maybe one or two jobs a year it is not worth spending a couple of thousand euro on it, not it's not. If you have one or two people at the office is it worth it? of course it is." (MB, PRM 1+2)

AF. Affordable for freelancer

"I want that a freelance supercargo can afford it" (WH, PRM 4)

30. Pricing changes

AG. Pricing changes

"First I wanted to put it for free on the market, but then it became this big and valuable, that I decided to sell it." (WH 2, PRM 2)

31. Own recourses

AH. Own recourses

"Whole the financing, from development to all the people we paid out of own recourses." (WH, PCS 1)