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Business Models and Business Model Innovation

Theoretical development of a conceptual, general business model framework illustrated with a case on Norwegian marine technology company Sea-Hawk Navigation AS

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ABSTRACT

The fields of business models and business model innovation are relatively new as research topics, and largely unexplored in academia. Still, the study of business models has perhaps never been more important than it is today. With this paper, we seek to contribute to the further development of business model theory. In order to do so, we employ a twofold approach that is part theoretical, and part practical. The theoretical part contains an elaborate literature review of four central contributions to the field, and our development of a conceptual, general business model framework. The framework we provide represents an amalgamation of the aforementioned four, reviewed contributions, and is furthermore explicitly connected to several key theories from the field of strategy.

The practical part of our paper is an illustrative, qualitative case study on Norwegian marine technology company Sea-Hawk Navigation AS (Sea-Hawk). Sea-Hawk is a firm with close bonds to the oil industry, and is currently going through difficult times due to a drastic, seemingly lasting fall in oil prices. The need for innovation and restructuring in oil-tied companies and industries appears

more pressing than ever, and therefore, Sea-Hawk provides an especially interesting case for the exemplification and testing of our theoretical business model framework.

We find that, despite having clear limitations, our model was relatively successful in describing, categorizing and clarifying a range of components in Sea-Hawk's business model that seemed to matter. Our model was additionally able to provide the foundation for several recommendations that might be helpful for the firm. In this regard, we mention that largely, Sea-Hawk's business model appears to be sensible, sound and consistent. Except for certain, rather minor areas of possible improvement, the deterioration of Sea-Hawk's main market, rather than their business model itself, appears to be the primary reason for the difficulties that the firm currently experiences. One main recommendation for Sea-Hawk is consequently that the firm from now on should seek to leverage their business model in industries other than seismic services for oil and gas. The firm itself has identified e.g. fishing vessels, rescue, and cruise and ferries as promising, prospect markets. In these markets, we believe that Sea-Hawk's business model to a large extent could work, and be a means through which the firm can gain traction.

We hope that our framework could assist a business model designer in mapping and understanding his business model, and in providing an overview of the toolbox of variables available to him for business model innovation. Moreover, we hope that our framework can serve as a basis for future research, of both practical and theoretical nature.

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1. INTRODUCTION

1.1. Status quo in the business model field

Business models and business model innovation are topics that are relatively new as research subjects (Santos, Spector, & Van Der Heyden, 2009), and largely unexplored in academia (Zott & Amit, 2010). As we will discuss in the following, recent contributions to the literature tend to focus on different properties of the business model, and a common ground of unified definitions and complete frameworks seems yet to be reached. One intuitive explanation for the apparent lack of consensus in the field, is that the business model, as we will see, is a very broad concept that encompasses many different theories and concepts across academic disciplines, and across managerial focus areas. For example, as Morris, Schindehutte, & Allen (2005) point out, the business model can simultaneously be understood from an economic, strategic and operational perspective, which leads to a high degree of complexity. Altogether, to a certain extent, there seems to exist a theoretical void in the field of business models that calls for further theoretical contributions.

Despite the apparent theoretical void on the subject of business models, the interest in the topic has, however, increased substantially in recent years. Albeit finding a continued lack of agreement among researchers on what business models really are, Zott, Amit, & Massa (2011) point to the “explosion in the number of articles published” on the matter in the last two decades (p. 1020). There also seems to be an increased focus on the subject among practitioners. This observation is illustrated by e.g. Norwegian governmental innovation and development facilitator Innovation Norway, which recommends the business model as the tool of choice for clients who wish to bring new ideas to the market (Innovasjon Norge, 2015).

The increasing attention on the business model is a fortunate trend, taking into account the likely importance that sound business models have for firms’ performance. Teece (2010), for example, argues that the lack of robust, thoughtful business models was a key factor for the failure of many IT firms involved in the dot.com crisis at the turn of the millennium. It should moreover be reasonable to argue that, at the core, the study of business models has to do with innovation and a capability for change. As Zott & Amit (2010) put it, “the design of the business model is a key decision for an

entrepreneur who creates a new firm - and a crucial - perhaps more difficult - task for general managers who are charged with rethinking their old model to make their firm fit for the future” (p. 217). Business models and business model innovation hence appear to be fundamentally connected; Understanding the business model helps a manager identify the variables in the organization that can be modified and thus subject to innovation. In this sense, the business model can effectively be regarded as the very tool a manager can apply in order to achieve innovation. For these reasons, we here choose to view the business model, and business model innovation as interchangeable descriptions of the same, underlying phenomenon.

The study of business models has perhaps never been more relevant than it is today; Digital disruption is becoming the “business catchphrase *du jour*” (Bradford, 2015), and industries from taxi services to hotels are being turned upside down by new challengers with new business models such as Uber and AirBnB. Furthermore, in the time of writing, our own, oil-dependent country Norway experiences challenges in adjusting to a time with seemingly rigid, low oil prices, and the need for innovation and restructuring is at the top of the national agenda in media, politics and the business community. For this reason, we find the study of business models, and our illustrative case on Sea-Hawk Navigation AS, a struggling, Norwegian, oil-tied company to be particularly interesting.

As phenomena, business models and business model innovation are not new. Rather, it is the terms, and thus the conscious attention on the matter in academia and business, that are new (Santos et al., 2009). The aforementioned lack of unified definitions, we find, is a recurring observation in recent contributions to the field. Yet, Zott et al.’s 2011 review discovers four common themes surrounding the concept. First, they argue that the business model is materializing as a new *unit of analysis*. Second, they find that business models underscore system-level, holistic approaches to explaining how firms “do business”, not only focusing on *what* a business does, but also on *how* it does it. Third, business models include activities, not only performed by the firm in question, but also by other stakeholders in its ecosystem (suppliers, customers e.g.). Fourth and finally, a business model promotes a dual focus on value creation and value capture. Hence, compiled, from the reviewed literature the authors extract an understanding of the business model as a new unit of analysis, where the business model is a holistic activity system that focuses on value.

1.2. Purpose and contributions

In this article, we seek to contribute to the further development of business model theory through a twofold approach. The first part of our paper is theoretical in nature. This part, in turn, comprises two elements; first, we conduct a thorough and clarifying theoretical review of four main contributions to the field that we consider to illuminate the subject in a nuanced, rich manner. Second, we amalgamate our findings and interpretations from the theoretical review with some additional, suggested components of our own to form one holistic, general, conceptual business model framework. The additional components we introduce to our knowledge represent a new, explicit connection between the business model and central theories from the field of strategy. The second part of our paper is practical in nature. In this part, we provide an illustrative case study on Norwegian marine technology company Sea-Hawk Navigation AS, as an exemplification and test of our framework.

1.3. Concerning the case company

Sea-Hawk Navigation AS (Sea-Hawk) is a Norwegian marine technology firm established in 2000. The company sells high-end radars, mainly to large, multinational clients. Sea-Hawk's radars employ a unique technology that differentiates the company quite clearly from their competitors. While traditional radars exclusively employ so-called horizontal polarization that produce rather rough, undetailed images of the radar's surroundings, Sea-Hawk's radars combine conventional, horizontal polarization with so-called vertical and circular polarization into one, detailed image that in effect resembles a near-surface, real-time satellite image. Sea-Hawk's radars hence have the potential to provide users with significantly more information about their surroundings than conventional radars. Sea-Hawk is moreover currently the only supplier that offers such an "all-in-one" radar.

Seismic services for oil and gas is Sea-Hawk's main market. As a result of the recent, dramatic fall in oil prices (cf. Bloomberg, 2015), the firm is today struggling severely. The company's activities have followingly been reduced to a minimum in order to keep the firm floating. The firm furthermore has an active relationship to business model thinking, having already conducted a conscious business model innovation towards an increased focus on selling services, rather than products exclusively.

1.4. Research question

As mentioned, our paper consists of one theoretical part, and one practical part. The aim of the theoretical part is to understand and conceptualize that which a business model is. The aim of the practical part is first to describe Sea-Hawk's business model in terms of our framework, and second to perform a prescriptive analysis of their business model's perceived consistency and soundness. Due to the twofold approach we employ in this paper, our article aims to answer two, distinct research questions:

“What is a business model?”

“What characterizes the Norwegian marine technology company Sea-Hawk Navigation's business model, and does their model appear sound and consistent?”

1.5. Structure

Our paper consists of six chapters in total that each are decomposed into sections, of which most in turn are further decomposed into sub-sections. While chapter 1 introduces our paper, chapter 2 comprises a literature review of four main contributions to the field. The subsequent chapter 3 is the place where we synthesise our findings and interpretations from the theoretical review in chapter 2 with certain, additional components of our own. Chapter 3 consequently culminates in one, holistic business model framework that represents our take on that which the business model is. Together, chapter 2 and 3 comprise the first part of our paper, which represents the article's theoretical part.

Chapter 4, in turn, addresses methodological considerations for our case analysis. The case analysis itself finds place in chapter 5, and constitutes both a descriptive, and a prescriptive analysis of our case company's business model. Together, chapter 4 and 5 comprise the second part of our paper, which represents the article's practical part. Our last chapter, i.e. chapter 6, addresses implications, limitations, delimitations, and possibilities of future research for our theoretical and practical parts in combination. We found this latter solution to be natural for the twofold approach we employ in this paper.

2. LITERATURE REVIEW

In our literature review, we have selected four main contributions from the business model field, which we analyse in turn. We start with a discussion of Zott & Amit (2010), which we selected, and started our investigation of the business model with, due to its substantial amount of references. Second, we evaluate Teece (2010), which we selected based on its overarching, highly holistic perspective on the business model, and its many practical, intuitive examples. Third, we discuss Haugland & Methlie's (2015), which we selected due to its novelty and further development and assemblance of the business model. Fourth and finally, we examine Baden-Fuller & Haefliger (2013), which we selected due to its expanded and rich focus on certain business model components that our other consulted authors, in our perception, did not investigate in similar depth.

With regards to the process of our literature review, the order in which we present our four main contributions also constitutes the order in which we reviewed the respective articles. As we proceeded with our literature review, we contrasted the four main papers to each other, investigated references of the papers to learn more, and looked up our own, additional references to enlighten aspects of our business model understanding further. Concerning methodology, thus, to the extent that such considerations could be transferred to a theoretical literature review, we would characterize our research process as a non-probability snowball sampling method.

Furthermore, the methodology-related notion of validity could be relevant to discuss in relation to our theoretical review. With regards first to internal validity, we should note that several of our discussed contributions, as will be evident in the following, are quite subtle and implicit at times, and thus open to interpretation. To handle internal validity in a sound manner, we have hence attempted to be careful and thorough in clarifying which parts of our review that constitute explicit statements from the authors, and which parts of our review that constitute our own inference and interpretation. With regards, second, to external validity, we wish to express that the literature has become rather rich and elaborate in recent years, and that our analysis by no means comprises a complete review of the field. It is hence possible that another study, focusing on different contributions than we do, would find different results. To mediate concerns related to external validity to the best of our ability, we have nevertheless attempted to be as broad in our literature

review as our scope has allowed for. Additionally, we have largely used sources with a significant amount of citations, or sources that our supervisor has directed us towards.

As will be observable in our literature review, our four main contributions have both similarities and differences when it comes not only to business model content, but also to structure. As a guiding note to the reader on the latter, we would like to make an introductory comment here that a rough common feature of the four works is the distinction between fixed, and variable business model components. This distinction will thus be a tool we use in order to organize, and deepen, the takeaways from the four main contributions we consult.

2.1. Zott & Amit (2010) on business models and business model design

According to Zott & Amit (2010), “the overall objective of a focal firm’s business model is to exploit a business opportunity by creating value for the parties involved” (p. 217). The authors seek to create a toolkit that enables managers in both new and established firms to design a business model fit for the future. Hence, implicitly, their concept of business model design at the core has to do with innovation. In their view, an activity system is the complex interplay between the firm in question - the focal firm - and its network of stakeholders, e.g. customers, partners and competitors (ibid.). Furthermore, an activity system is comprised of interdependent activities, i.e. the engagement of resources (human, physical or capital) by any of the system’s participants to contribute to the fulfilment of the aforementioned overall objective. Zott & Amit (2010) argue that a purposeful design of a firm’s activity system, with a conscious choice of activities, how they are linked, and by whom they are performed, is the essence of the business model (p. 218). Thus, the business model in their view is a holistic concept that captures how a firm is integrated in its ecosystem, and whom its potential customers, partners and competitors are.

Zott & Amit (2010) suggest two key parameters to use in order to design a purposeful activity system; design elements and design themes. Design elements comprise activity system content (i.e. selection of activities), activity system structure (i.e. the linkage between the activities and their respective importance) and activity system governance (i.e. who performs the activities, and where). Design elements describe what kinds of activities are performed in the business model, how these activities are linked together, and who performs them. Zott & Amit’s (2010) design elements appear to be considered as essential, fixed entities of the business model. We might thus, in line with the

logic of business model structure that we presented in the introduction to chapter 2, view the design elements as Zott & Amit's (2010) fixed business model components. Design themes comprise novelty, lock-in, complementarities and efficiency, summarized by the acronym NICE. The design themes describe the drivers of value creation in the activity system, and detail the configuration, i.e. characteristics, of the design elements in the activity system. Design themes represent the modifiable characteristics, or unique selling propositions we might say, of the design elements. We hence view the design themes as the authors' variable business model components.

It is important to note that the authors describe the abovementioned design parameters (i.e. design elements, and design themes) as independent for simplicity, but emphasize that they could be highly interdependent as well (p. 220). Viewing the activity system as an interactive ecosystem, it should be reasonable to expect that normally, the latter will be the case.

2.1.1. Design elements

Zott & Amit's 2010 article consistently revolves around innovation, also in relation to their explanation of the business model design parameters. Starting with design *elements*, to explain activity system *content*, the authors refer to Colombian retail bank Bancolombia, which launched a new service offering microcredit (p. 220). The essential takeaway is that in order innovate successfully, the bank could not simply add a new service to its portfolio and continue "business as usual" - the bank needed to train and hire employees at various levels in the organization, develop new capabilities and link the new activity (microcredit) to its existing activity system in a sound manner (ibid.). Activity system *structure* can also be subject to innovation, as the authors illustrate with the case of IBM, which successfully switched its primary and support activities; IBM went from having hardware supply as primary activity and service provision as support activity, to the opposite. Activity system *governance* is yet another business model element that can be manipulated for innovation. As the authors explain, the franchising model, new to Japan in the 1970s, was used at the time to successfully circumvent strict Japanese regulation regarding store size and opening times in the retail industry, in effect finding a new way to create value in the market (ibid.).

Albeit appealing and useful in terms of directing attention to important aspects of the business model, we find Zott & Amit's (2010) arguments for the three design elements discussed above somewhat shallow and anecdotal, and the corresponding explanations somewhat incomplete and

vague. The design elements are illustrated through selected examples, but there is no deeper definition or decomposition of the terms. We should recognize, however, that the lack of deeper frameworks for business model analysis is understandable, taking into account the novelty and exploratory stage of this academic field. Despite being vague, it is possible to make certain inferences from the authors design element discussion:

Design element content is a rather broad, generic notion, that could, possibly, be interpreted to comprise almost any feature of the business model. Due to its lack of specificity, we argue that design element content, in Zott & Amit's (2010) conceptualization, may in itself perhaps be too wide to be useful as one discrete component in a business model framework, and that further nuance and decomposition would increase the concept's utility. As regards the authors' design element structure, this component appears to refer to an organization's value chain, and we interpret it as such. Finally, as far as authors' design element governance is concerned, this concept, perhaps contrary to the authors' intentions, will be interpreted as traditional transaction cost economics, with the two options of hierarchical vs. market governance. Zott & Amit (2010) mainly criticize transaction cost economics, due to its rigidity. In their view, this theory might be too rigid and unrealistic, as it "assumes homogeneity in firms' production capabilities and costs - assets are assumed to be equally productive in the hands of different firms, given similar governance arrangements and transaction characteristics." (p. 223). While the authors criticize and seem to distance themselves from transaction cost economic, they ultimately, nevertheless, seem to refer to it in their explanation of governance (p. 222).

2.1.2. Design themes

With regards to design *themes*, the four NICE properties are highlighted by the authors as key variables to use in order to create value in one's activity system. Value, in turn, can be created in each of the three design elements, presumably in more than one element at once. *Novelty* represents the adoption of new activities (content), new ways of linking the activities (structure) or new ways of governing them (governance). Apple is used by Zott & Amit (2010) as an example of an enterprise that managed to bring novelty into all three of its business model elements at once, through their introduction of music distribution as a new service (p. 221). *Lock-in* refers to an activity system's ability to keep third parties attached to the activity system as participants, also described as switching costs. For Facebook for example, as the authors illustrate, a considerable lock-in effect is

created both through network externalities (i.e. that the value of using the service, and thus the adversity of changing to something else, increase with the number of users) and through time invested by participants in creating a personalized profile (ibid.).

Complementarities, in turn, occur whenever a combination of activities in a system creates more value than each of the individual activities separately. *Efficiency*, at last, refers to the reduction of costs in an activity system through sensible design. Zott & Amit (2010) seem to argue that, similar to the other design themes, efficiency can be achieved in all three design elements, tailored to suit a focal firm's particular situation. As examples, the authors suggest that a firm can choose vertical integration over outsourcing (governance), or choose to eliminate certain activities in the activity system, like on-board catering on airplanes (content). In explaining efficiency, the authors specifically refer to transaction cost reduction (p. 221). However, in the on-board catering example, the authors implicitly, deliberately or not, seem to expand their efficiency design theme to include pure cost savings as well, and hence, their efficiency concept may seem go beyond the cost savings that are usually considered in transaction cost economics, in effect referring to general cost savings.

As far as we can see, the authors do not provide strong arguments or explanations for their particular choice of the NICE design themes as drivers of value in the business model. Similarly, while they state that the NICE design themes are established by conceptual and empirical research (ibid.), they do not provide sources for this argument. Still, in our view, the NICE design elements seem to be rather uncontroversial and intuitive drivers of value creation for a business, and reasonable ingredients to include in a business model conceptualization. A remark we have, however, is that Michael Porter's well-known generic strategies of cost leadership vs. differentiation (cf. Magretta, 2011) are not at all mentioned in relation to Zott & Amit's (2010) discussion of value creation. We find this puzzling, as Porter's classic thoughts on the matter should be argued to be fundamental to the discussion of value creation.

2.1.3. Section summary

Compiling our insights from the above elaboration, we have seen that the business model according to Zott & Amit (2010) is an activity system that consists of an intricate interplay of activities and participants. In the view of the authors, the design elements content, structure and governance can be interpreted to represent the fixed components of the business model, and the NICE design themes as

its variable components. We argue that design element content is a very wide concept whose utility would be enhanced through further decomposition. We infer design element structure, in turn, to refer to an organization’s value chain, while design element governance is interpreted as transaction cost economics. Finally, by the NICE design themes; novelty, lock-in, complementarities and efficiency, we infer that the authors mean to detail a range of general means through which a business model designer can create value in any fixed component of his business model. Table 1 sums up our key takeaways from Zott & Amit’s (2010) business model conceptualization:

Table 1: Zott & Amit’s (2010) business model components

Fixed components	Variable components
Design element content	Design theme novelty
Design element structure	Design theme lock-in
Design element governance	Design theme complementarities
	Design theme efficiency

2.2. Teece’s (2010) overarching, value-centred perspectives on the business model

Teece’s (2010) work provides valuable enrichments to the business model concept that we have discussed thus far. While having similarities to Zott & Amit (2010), his article simultaneously differs from their thoughts in important ways. With regards to similarities to start, there are several. First, Teece’s (2010) article consistently depicts the business model as an organization-wide, holistic concept, stating e.g. that “a business model embodies nothing less than the organizational and financial ‘architecture’ of a business” (p. 173). Second, he emphasizes the business model’s particular relevance for innovation (p. 192), and third, he identifies the purposeful, careful design of a business model as a critical managerial task (p. 174). Regarding differences, we would argue that the greatest distinction from Zott & Amit (2010) is his conceptualization of the business model. While the perspective on the business model as a holistic activity system with intricate interdependencies seems to harmonize well between the two sources, the decomposition of the system, and the components that the authors direct the main attention to, differ.

At the core of Teece's (2010) business model conceptualization we find the business model cornerstones value creation, value delivery and value capture. In his own words, he states e.g. that "the essence of a business model is in defining the manner by which the enterprise delivers value to customers, entices customers to pay for the value, and converts those payments to profit" (p. 172). His business model concept is hence related to fundamental managerial questions that address the purpose of the enterprise and how the enterprise "does business". We appreciate Teece's (2010) perspective on business models as something that goes beyond value creation; he also takes into consideration the necessity of soundly delivering that value to the market, and ensuring that the focal firm succeeds at capturing parts of that value. We furthermore cherish the fact that he, in contrast to many other authors (cf. Zott et al., 2011) review of the business model literature in the introduction), explicitly suggests value delivery as an addition to, or a distinction from, a business model's value creation and value capture. We believe that such a threefold, overarching decomposition of the business model can serve as the basis of a useful, sophisticated means to analyse the dynamics of the business model.

When comparing Teece (2010) to Zott & Amit (2010) in section 2.1., we see that while Zott & Amit (2010) provide a good overview of a possible composition of the business model activity system (i.e. the design elements) and outline valuable suggestions (i.e. design themes) for how to innovate in creating value in each of the business model elements, their work seems to favour a focus on value creation, at the expense of value delivery and value capture. It appears evident that remembering to carve out a thoughtful plan on how to deliver and capture value after having created it, is essential for a prosperous business model. Teece's (2010) article thus appear to provide a valuable enrichment of our business model understanding thus far. Furthermore, while Zott & Amit (2010) in terms of structure have a main distinction between fixed and variable business model components, the structural logic of Teece (2010) provides us with a different, interesting nuance. We argue that Teece (2010) does not to a noteworthy extent focus on fixed vs. variable business model components. Rather, his main focus, as will be evident in the following, is on fixed business model components, but on different hierarchical levels.

In our view, Teece's (2010) greatest strength is that he directs attention to the three value domains mentioned above as cornerstones of the business model. However, we argue that the main weakness of his article is that the paper, like that of Zott & Amit (2010), does not offer a structured, specific

framework or decomposition of the components in question. Teece's (2010) paper is rather exploratory in nature, and illustrates the importance of business models and business model innovation mainly through, perhaps somewhat scattered, examples and anecdotes. Creating a stylized theoretical framework does not seem to be his intention however, as he indeed states that a main purpose of the article is to contribute to the (broader) understanding of the importance of the business model (p. 192). Moreover, the lack of a deeper, theoretical analysis of the matter is likely to correspond, again, to the observation that business models as a research topic is new and underdeveloped. Teece recognizes this observation himself (p. 175), seemingly viewing the business model concept, at least in that time of writing, as not yet ready for a theoretical dissection. Although Teece's treatment of the three mentioned value components appears somewhat unstructured and coincidental, we find it worthwhile to infer what his paper might suggest about them. We will now look at Teece's three value domains in turn, starting with value creation.

2.2.1. Value creation

Regarding value creation, first, Teece (2010) briefly refers to a 2008 article by Zott and Amit which discusses business models in light of two fundamental generic strategies; cost leadership vs. differentiation (p. 191). Although not stated, these two strategies originally stem from Michael Porter's work on competitive advantages, and represent the two main categories of competitive advantage available to a firm (Porter, 1992). Even though Teece (2010) does not himself explicitly suggest it, Porter's generic strategies should be argued to have an essential link to the discussion of value creation. The very essence of competitive advantage is to understand how one's firm can do better than one's competitors (*ibid.*). The competitive advantage can thus with relative ease be viewed from a customer-oriented, value-creating perspective, in the sense that it helps a firm create more value for its customers than others, either as a cost leader or a differentiator. We consequently infer that Teece (2010) relates value creation in a business model to Porter's generic strategies.

2.2.2. Value delivery

Regarding value delivery, second, Teece (2010) seems to view this component mainly in terms of value chain considerations. Among the many examples in his article, he discusses the business model challenges and opportunities tied to the Internet as a new arena for distribution (p. 174), and Dell's success as a computer technology company due to its value chain innovation that connected

production directly to consumers without intermediaries (p. 180). Furthermore, in support of the value chain perspective on business models, Magretta (2002) argues that “all new business models are variations on the generic value chain underlying all businesses” (p. 88). This indeed is a view that Teece refers to in his article as an explanation of value delivery, though with the sensible critique that this definition of a business model is insufficient in the sense that it seems to overlook the two other value components value creation and value capture (2010, p. 191).

Teece (2010) also talks about the concept of governance in relation to value delivery. To our understanding, however, he views governance not only as part of value delivery, but also as part of value capture. Teece (2010) rather clearly specifies his conceptualization of the term governance. In our understanding, he bases his discussion of governance on traditional transaction cost economics, using the well-known spectrum of internal integration (hierarchical organization) on the one side, and outsourcing (market-based organization) on the other, with a range of possible mixed solutions in between (p. 184). It is worth mentioning here that transaction cost economics is both heavily cited and expanded upon, but also a subject that has faced significant opposition. Zott & Amit (2010) for example, as we previously saw, attempt to distance themselves from the theory by questioning the assumptions in the model. Teece (2010), however, deems the theory “suitable” (p. 189), thus seeming to be among its supporters.

2.2.3. Value capture

Continuing third with value capture, as we just observed, Teece’s (2010) concept of governance seems to be partly connected to this concept. Governance is however not the only idea he talks of in relation to value capture; he also focuses on the aspect of what he calls business model sustainability. A first takeaway from Teece (2010) here is his suggestion that the choice of organizational structure should be based on whether intellectual property protection is viable or not. This protection issue, also described by him as barriers to business model imitation, is a recurring topic throughout his article, and subject to an interesting discussion. Yet, due to reasons of delimitation, we do not delve deeper into intellectual property considerations in this text. We do, nonetheless, note Teece’s (2010) sensible comment on the matter on p. 182, that while business models are not usually protectable by patents, they can still be difficult to imitate due to e.g. a lack of transparency, or competitors’ aversion to the cannibalization of existing offerings (i.e. goods or services).

A second takeaway from Teece (2010) on business model sustainability is his introduction of a business component we believe to be of high relevance; the revenue model. Intuitively, the revenue model seems to refer to the manner through which a firm generates revenues, or cash streams. Its concrete definition, however, appears elusive, and easy to confuse with the business model itself. Teece (2010) for example, although he uses the term “revenue model” on several occasions, never clearly defines it. He does still illustrate the concept with several examples. He mentions e.g. the “razor-razor blade model” (i.e. an inexpensive base component with expensive complementary parts that need to be replaced frequently) as a classic revenue model for businesses. Furthermore, he points to the fall of IT companies in the dot.com bubble as an outcome caused by fragile revenue models in particular, as many companies failed to realize that a high number of *users* did not necessarily equal a high number of *payers* (p. 174).

2.2.4. Section summary

Compiling the insights from Teece’s (2010) article, we observed his notion of value creation, value delivery and value capture as important cornerstones in a business model. Although he to a small extent investigate these concepts in detail, we inferred from his discussion that he relates Porter’s generic strategies (cf. Magretta, 2011) to value creation, the value chain to value delivery, and that he considers the revenue model to belong to value capture. Teece (2010) furthermore discuss governance (i.e. transaction cost economics), as a concept belonging to both value delivery and value capture.

We previously discussed the business model as an entity consisting of in part fixed components and in part variable components. Teece’s (2010) business model concepts in this regard all appear to constitute fixed components, though at different levels. His three value components (i.e. value creation, value delivery, and value capture) seem to be fixed, overarching components, under which the other components he addresses (i.e. Porter’s generic strategies, the value chain, the revenue model, and governance) appear, as respective, fixed sub-components. Table 2 sums up our key takeaways from Teece’s (2010) business model conceptualization:

Table 2: Teece's (2010) business model components

Fixed overarching components	Respective fixed sub-components
Value creation	Porter's generic strategies
Value delivery	The value chain, governance
Value capture	The revenue model, governance

2.3. Haugland & Methlie's (2015) business model typology

Haugland & Methlie's (2015) recent work provides valuable enrichments to our discussion of the business model. Their article contributes to the establishment of a stronger theoretical grounding for business models through their attempt to develop a theory-based typology of business models for services. While the previously discussed works of Zott & Amit (2010) and Teece (2010) are rather conceptual in nature, i.e. conceptualizing the components of the business model without connecting them into a prescriptive typology in a second step, Haugland & Methlie (2015) do just that. Their business model typology is furthermore tailored specifically towards services; a result the authors obtain by linking their business model components to a set of so-called service attributes. Our focus is conceptual, not typological or prescriptive. Moreover, the goal of our business model development is to obtain a general framework, not a framework specifically for services. Nevertheless, we believe that Haugland & Methlie's (2015) initial, pre-typology business model conceptualization can provide us with many valuable inputs. Also, it is our view that the paper's set of service attributes could be transferable to offerings in general as well, thus providing us with yet another useful input.

Haugland & Methlie (2015) picture the business model as a concept consisting of the four overarching dimensions value network, customer targeting, value proposition, and revenue model. These dimensions are interdependent, and create a set of decision-making variables referred to by the authors as a "configuration of multiple cause-effect relationships" (p. 3). Each dimension in turn consists of a range of accompanying, subordinate sub-pieces named design elements. We note that the design elements in Haugland & Methlie (2015) do not equal that which Zott & Amit (2010) call

design elements. A comparison to Zott & Amit (2010) is interesting nevertheless, as, although the terminology in the two papers are different, the underlying logic is largely similar. The similarity is due to the fact that both works consider a business model to consist of certain fixed components, and certain variable components that can be used to customize the fixed ones. In Zott & Amit (2010), these are called design elements, and design themes, respectively. In Haugland & Methlie (2015), these are called dimensions, and design elements, respectively.

In the following, we will take a closer look at Haugland & Methlie's (2015) four different dimensions, and each dimension's accompanying, subordinate design elements. Also, we will investigate the authors' concept of service attributes, and how this concept might be relevant for offerings, and business models, in general.

2.3.1. The value network dimension

Starting with the value network, this concept highlights the importance of cooperative networks of customers, suppliers and other players for a business model's ability to create and capture value (p. 8). Haugland & Methlie's (2015) notion of the value network hence, reasonably, recognizes the need to view the business model not as one firm in isolation, but as an interplay between the focal firm and other actors in its business ecosystem. This view harmonizes with Zott & Amit's (2010) activity system perspective on the business model. Haugland & Methlie (2015) furthermore suggest that the value network dimension should address core competencies, the arrangement of activities and resources in the business model system, and choice of governance (ibid.).

The value network dimension in Haugland & Methlie (2015) consequently bears resemblance to, in part, transaction cost economics, and in part, the value chain. The authors' decomposition of the value network into the two sub-dimensions structure and governance strengthens this connection further. Structure, according to the authors, "identifies the [value network's] required resources and capabilities, i.e. core competencies, asset sharing between partners, and complementarities" (p. 9). Governance, in turn, "refers to the use of specific mechanisms to coordinate inter-firm transactions" (ibid.). Structure, and the relationship between the notions of governance and structure, appear ambiguous. Due to reasons of delimitation, the authors exclude structure from their analysis, and do not further explain this sub-dimension. The mentioned ambiguities appear to be due to this choice. Governance is addressed, however

governance is decomposed into the three choices, i.e. design elements, market governance, hierarchical governance, and relational governance. In addition to the two familiar, former governance choices, Haugland & Methlie (2015) thus introduce a third choice; relational governance. Relational governance, they state, “is performed through trust, relational norms and personal relationships” (p. 13). The authors hence appear to refer to governance as an extended version of transaction cost economics. This type of transaction cost economics can be interpreted as hybrid transaction cost economics (cf. Poppo & Zenger, 2002).

To sum up and clarify, Haugland & Methlie’s (2015) value network dimension includes governance and structure, both of which are pictured as fixed components of the business model. The value network dimension can be interpreted as a fixed, overarching business model component, while governance, and structure, can be interpreted as fixed, accompanying sub-components. The particular composition of Haugland & Methlie’s (2015) value network dimension thus, interestingly, bear resemblance to the business model logic we observed in Teece (2010). Governance in Haugland & Methlie (2015) is interpreted to correspond to hybrid transaction cost economics, and is decomposed into three distinguished design elements. These design elements, i.e. variable business model components, are hierarchical, market, and relational governance. These design elements belong to governance, and not to other, fixed business model components. Structure is not discussed in depth by the authors, but seems to be related to a firm’s design of its value chain beyond the considerations that transaction cost economics covers.

2.3.2. The revenue model dimension

Moving our attention to the revenue model dimension, this concept according to Haugland & Methlie (2015) “describes how value is captured and shared by network actors” (p. 18). The two design elements in the revenue model are value capturing, and value sharing. The authors sensibly argue that first, a service must capture adequate value to the participating actors for them to participate, and then, the captured value has to be shared between the actors in an appropriate manner. It should be reasonable to argue that the same logic would apply to offerings in general.

Value capturing is defined as an “innovative process aimed at identifying the underlying mechanisms through which the services offered deliver valuable results to network actors” (ibid.). More specifically, the authors state the identification of revenue sources, and pricing strategies, to be

core activities here. Value sharing, in turn, “describes how captured value should be shared between network actors“ (ibid.), and is stated to primarily be a question of agreeing on principles and procedures for a fair sharing of value over time. In the view of the authors, then, the revenue model is a fixed business model component, while the accompanying design elements value capturing and value sharing are variable components. These variable components are furthermore specifically tied to the revenue model, and not to other fixed business model components.

In our view, Haugland & Methlie’s (2015) revenue model dimension, and its related discussion, are perhaps somewhat weak. First, the explanation of the concept is somewhat scattered and difficult to follow. For example, while the concept is first introduced and partially explained on p. 9, its full explanation does not find place before p. 18. Second, the concept itself is rather confusing, in our view. The authors’ analysis of value capturing and value sharing ultimately seem to suggest the two as either-or options. This appears to be inconsistent with the authors’ initial argument that a business model needs both features. We find the apparent polarization of value capturing and value sharing puzzling as, indeed, value capturing and value sharing intuitively appear to be complementary aspects of a business model. Furthermore, the conceptualization of value capturing and value sharing are rather vague, and their contents appear to mix some new concepts (e.g. the identification of revenue sources) with other concepts that have already been established by the authors (the value sharing design element, for example, bears resemblance to the value network dimension).

2.3.3. The customer targeting and value proposition dimensions

The customer targeting and value proposition dimensions in Haugland & Methlie (2015) are closely tied to value creation. Customer targeting, first, focuses on the appropriate positioning approach for a firm towards its selected customers. In fact, the authors employ Michael Porter’s generic strategies of cost leadership and differentiation (cf. Magretta, 2011) as their analytical tool for this dimension, in effect aligning the customer targeting dimension closely with our discussion of value creation in Teece, 2010 (section 2.2.1.). In Haugland & Methlie’s (2015) conceptualization, cost leadership and differentiation become the two subordinate design elements of the customer targeting dimension. In other words, while what the authors call customer targeting can be viewed as a fixed component of the business model, cost leadership and differentiation can be interpreted as variable components. These variable component are furthermore specifically tied to customer targeting, and not to other fixed business model components.

With regards to Haugland & Methlie's (2015) value proposition dimension, this concept constitutes the business model designer's choice of what to offer to the customer in order to generate customer value. More specifically, the value proposition corresponds to the firm's positioning options from a marketing perspective (p. 6). The concept of marketing positioning is similar to the discussion of positioning approach in the above customer targeting (i.e. Porter's generic strategies), but not the same. The concept of positioning from a marketing perspective specifically, is defined as "the particular bundle of benefits selected by the firm to be created and delivered to the target customer" (Ghosh & John, 1999, p. 135). As we can see, thus, this kind of positioning initially appears to be a general concept, not limited specifically to services.

Haugland & Methlie (2015) suggest three design elements for the value proposition, which they call standardized services, customized services and service scope. Standardization implies offering the same service to every customer, while customization tailors services to specific customer segments. Scope, finally, refers to whether a service, or a service component, can be packaged or bundled to other services in the final offering to the customer (p. 14). Although the authors focus on services in particular, we find it reasonable to imagine that standardization, customization and scope could be transferable to offerings in general, and thus be relevant to our analysis, particularly due to the fact that the authors' suggestions are based on a concept (i.e. marketing positioning) whose initial definition is general. For this reasons, we hereafter refer to these design elements simply as standardization, customization, and scope.

To sum up and clarify Haugland & Methlie's (2015) notion of the value proposition, we note that a firm's value proposition is considered a fixed business model component, while its three design elements standardization, customization, and scope, are variable business model components. These variable components are moreover specifically tied to the value proposition, and not to other fixed business model components.

2.3.4. Service attributes

After having analysed the dimensions and accompanying, subordinate design elements in Haugland & Methlie (2015), we now proceed to describe the authors' concept of service attributes. We note that the pairing of dimensions (and subordinate design elements) with selected service attributes is the method the authors use to create their typology of service business models. As previously

mentioned, we do not explore prescriptive typologies in our text, and neither do we focus specifically on services. As noted, in this text we attempt to develop a general, conceptual business model. It is our argument, however, that Haugland & Methlie's (2015) ideas of service attributes in service business models, which we will elaborate on shortly, in essence are rather general in nature, and thus transferable to business models in general.

attributes, according to the authors, are descriptive features that characterize an offering, meaning what the customer thinks that a product or service is or has, and what is involved in purchasing and consuming that product or service (p. 10). We emphasize that attributes, according to Haugland & Methlie's (2015) explanation of the concept, thus are general features that apply not only to services, but also to products. As the definition implies, attributes are descriptive, rather objective features of an offering. Such attributes are opposite to so-called benefits, which are related to the subjective, personal value any one consumer ascribe to an offering (ibid.). Consequently, an attribute has the convenient characteristic that it is something which a firm can itself design and change.

Haugland & Methlie (2015) employ three sets of attributes; First, there are intrinsic attributes, which are directly tied to the offering's design or user experience. Examples of such, mentioned by the authors, are usefulness, functionality and enjoyment. The music streaming service Spotify, e.g., is an offering that in our view scores rather well on these intrinsic attributes. Second, there are user-size external attributes that change depending on the user base. Typically for online services for example, more users increase the value of the service. Third, there are complement external attributes, which indicate that the value of a service increases when bundled with another, related product or service. The idea of attributes highlighted in Haugland & Methlie (2015) harmonize rather well with the previously discussed NICE design themes in Zott & Amit (2010); novelty, lock-in, complementarities and efficiency (cf. section 2.1.2.). We note, however, that while Zott & Amit's (2010) design themes are broad value creating variables that can be applied to any fixed business model component, Haugland & Methlie's (2015) attributes are more narrow in nature, talked of specifically in relation to creating value in a firm's products or services.

The service attributes illuminated in this section do not have a direct link to our previous discussion of fixed vs. variable business model components. In Haugland & Methlie's (2015) terminology, service attributes do not constitute dimensions or design elements of a business model. We do believe, however, that the service attributes can broaden and enhance the understanding of business

model value creation on a conceptual level, if they are further developed and soundly connected to other parts of the business model. Furthermore, we note that the service attributes appear to follow a similar structural logic to that of Haugland & Methlie's (2015) dimensions and design elements. While service attributes seems to be a fixed entity, intrinsic attributes, user-size external attributes, and complement external attributes are variable, subordinate entities that can be used to modify the fixed entity.

2.3.5. Section summary

Haugland & Methlie (2015) discuss in their article a business model consisting of four fixed business model components called dimensions. Each dimension is in turn decomposed into several, accompanying design elements, which represent variable business model components. The design elements can followingly be applied to customize their respective, overarching dimension.

Haugland & Methlie's (2015) value network dimension consists of structure and governance. The value network represents a fixed, overarching business model component, under which we find fixed sub-components governance and structure. Governance refers to hybrid transaction cost economics, and in addition to hierarchical and market governance, relational governance is thus introduced as a third, related option. The structure component is not in detail addressed by the authors, but is interpreted to refer to a firm's design of its value chain beyond the considerations that transaction cost economics covers.

The authors' revenue model is decomposed into the design elements value capturing and value sharing. From the discussion of these concepts, we note, and endorse, the idea that revenue source identification and pricing strategies are important in a business model. The dimension called customer targeting, including design elements cost leadership, and differentiation, is tied to Porter's generic strategies (cf. Magretta, 2011). The value proposition dimension corresponds to a firm's positioning options from a marketing perspective, and comprises the three design elements standardization, customization, and scope.

Service attributes, lastly, is a concept that differs from Haugland & Methlie's (2015) other concepts in the sense that service attributes do not directly constitute dimensions or design elements of a business model. Nevertheless, it is our view that this concept, which comprises sub-concepts intrinsic attributes, user-size external attributes, and complement external attributes, can provide

valuable enrichments to the understanding of the business model, if it is further refined and reasonably connected to other parts of the business model.

Tables 3.1, 3.2, and 3.3 sums up our main takeaways from Haugland & Methlie’s (2015) business model understanding:

Table 3.1: Haugland & Methlie’s (2015) business model-related components, part 1/3

Fixed overarching component	Respective fixed sub-components
Value network	Governance, structure

Table 3.2: Haugland & Methlie’s (2015) business model-related components, part 2/3

Fixed components	Respective variable components
Governance	Hierarchical, market, and relational governance
Revenue model	Value capturing, and value sharing
Customer targeting	Cost leadership, and differentiation
Value proposition	Standardization, customization, and scope

Table 3.3: Haugland & Methlie’s (2015) business model-related components, part 3/3

Service attributes		
Intrinsic attributes	User-size external attributes	Complement external attributes

2.4. Baden-Fuller & Haefliger (2013) on the business model and revenue capture

Baden-Fuller & Haefliger (2013) provide yet another interesting perspective on business models, and their work will be the fourth and last main contribution we consider in our literature review. The authors offer a particularly valuable concretization and expansion on a certain subject that our other reviewed authors may to a certain extent have overlooked, that is the revenue model. Baden-Fuller & Haefliger's (2013) paper involves four fixed business model components, with various, subordinate, variable components accompanying each of them. The variable components here belong to one, particular fixed component, and not to others. In Baden-Fuller & Haefliger's (2013) conceptualization, the fixed components are customer identification, customer engagement, monetization, and value chain and linkages. In the following, we will discuss each of these components in turn.

2.4.1. Customer identification

Baden-Fuller & Haefliger's (2013) customer identification component, first, investigates whether the *users* of a firm's offering are also the *payers* of that offering, and has to do with sensing the needs of a firm's customers. One offering might simultaneously satisfy different needs for different customers, and it thus becomes important to understand how one offering might affect various groups of customers in different ways. Interestingly, and as Teece (2010) previously touched shortly upon in his discussion of the failure of the dot.com IT firms, the payers and users of an offering need not necessarily be identical. The separation of user and payer is possible due to the fact that a business model might be, in the notion of Baden-Fuller & Haefliger (2013), both one-sided and two-sided.

Baden-Fuller & Haefliger's (2013) elaborate focus on one-sided and two-sided business models, we find, is an interesting nuance to the business model discussion. In a one-sided business model, the user and payer are the same. It should be reasonable to argue that this indeed is the normal case. In a two-sided model, however, the two are separated. Although the two-sided business model was popularized by Google's search engine business model (p. 419), the classic example should be argued to be newspaper companies. Newspapers typically receive only a tiny fraction of their revenues from readers, while advertisers account for the lion's share (*ibid.*).

In terms of structure, then, Baden-Fuller & Haefliger's (2013) customer identification is a fixed business model component, while one-sided vs. two-sided business models constitute the two variable components, i.e. modification options, of that fixed component. We note here that it is possible to consider a business model as having more than two-sides as well, in the form of so-called multi-sided business models. Baden-Fuller & Mangematin (2013), or Foss & Saebi (2015), for example, elaborate on this topic. However, we choose in this text to limit our discussion to one-sided and two-sided models, due both to reasons of delimitation, and to our belief that the distinction between one- and two-sided models may cover the essence of the subject sufficiently.

2.4.2. Customer engagement

Customer engagement, Baden-Fuller & Haefliger's (2013) second fixed component, deals with the choice of what to offer to the customer for the sake of creating customer value. More specifically, this choice has to do with customer targeting, from a marketing perspective. The authors introduce two options, i.e. variable components, for customer engagement, that is bus vs. taxi. Bus, subsequently, means standardization, while taxi means customization. For one, discrete customer segment, these two options are interpreted to be mutually exclusive. This topic is similar to Haugland & Methlie's (2015) previous notion of value proposition, though with the note that Haugland & Methlie (2015) included scope (i.e. the bundle of several offerings) as a third, additional option on the matter. An interesting nuance on the subject, from Baden-Fuller & Haefliger, (2013) is that the customer engagement dimension is viewed in light of their notion of one-sided vs. two-sided business models, i.e. in the sense that one, identical offering can create value differently for different groups of customers.

The perspective of one- vs. two-sided business models is in fact a recurring topic through Baden-Fuller & Haefliger's (2013) paper, and a lens through which the authors regard many, if not all, of their business model's components. As regards customer engagement, in this respect, one offering might have different customer segments, where one segment may receive a bus offering, while another may receive a taxi offering. Such a situation is illustrated on p. 421 with the case of Google's search engine, where the users of the offering, i.e. those who search, receive the same bus offering (a search service), and the payers of the offering, i.e. the advertisers, receive customized taxi offerings (tailored advertising services).

2.4.3. Monetization

monetization, the authors' third fixed business model component, is a topic highly related to value capture and the revenue model. In fact, Baden-Fuller & Haefliger (2013) indicate that monetization, in their view, equals value capture itself (p. 422). The sub-components of monetization, i.e. that which we interpret as variable components, are when, how, and what money is raised. The authors argue in the same section that monetization is a concept that is often treated in a too shallow fashion, in effect not accounting for the many interesting nuances of the concept. One of the seemingly overlooked nuances of monetization is that of timing, i.e. *when* money generated from an offering is collected. Money, followingly, could be collected before the sale, at the point of sale, or after the sale. Furthermore, an important choice in this regard according to the authors, is whether to let a customer rent an offering (i.e. provide payments little by little during the offering's consumption), or to sell it to the customer outright (i.e. receive full payment for the offering at the point of sale).

With regards to the *how* and *what* aspects of monetization, the authors talk about these two concepts rather interchangeably. From their text, we observe the discussion of both the need to consider the full spectrum of available pricing strategies, and what we infer as an offering's payment base. Concerning pricing strategies, Baden-Fuller & Haefliger (2013) mention among others Teece's (2010) previously discussed "razor-razor blade model", and two-sided business model dynamics like that of Google's search engine, where users get a free service and advertisers are those who pay for the service. Also, the authors talk of so-called "freemium" models. An illustration of a freemium model is that of music service Spotify, which offers a basic version of its service for free, and a premium version upgrade with enhanced functionality that requires payment.

Regarding that which we interpret as an offering's payment base, Baden-Fuller & Haefliger (2013) here seem to refer to the options of what an offering's price should be based on (i.e. the baseline for an offering's pricing), and whether the price is the same, or different, for various groups of users. The baseline for pricing could e.g. be derived from added value, such as that of management consultancy firms who often get a percentage share of the value their service generates, or be cost-based, such as the model of construction contractors who might base their prices on cost plus margin (p. 421). Finally, prices might, or might not, be negotiable, thus allowing for the option of pricing the same offering differently for different customers. Summing up the fixed monetization

component, its three variable components hence are when, how, and what money is raised, interpreted by us as timing, pricing strategies, and payment base, respectively.

2.4.4. Value chain and linkages

Value chain and linkages, Baden-Fuller & Haefliger's (2013) last fixed component, is referred to as mechanisms managing the architecture of information flows and system governance in a business model (p. 421). Specifically, the authors view these mechanisms as linkages between their previous fixed components of customer identification, and monetization. In other words, value chain and linkages bind together the act of finding customers with the act of obtaining revenues from them. This forcefully suggests that value chain and linkages can be considered in light of value delivery, i.e. as instruments through which value creation and value capture are connected. The parallels to transaction cost economics thus appear strong. Indeed, in relation to the value chain and linkages dimension, Baden-Fuller & Haefliger (2013) speak e.g. of vertical integration, and refer to among others Williamson (1981), who contrasts vertical integration and horizontal (market based) contracting. The authors do not explain their notion of system governance in detail.

They do however, go further than Williamson's (1981) perspective on transaction cost economics. Baden-Fuller & Haefliger (2013) argue that the traditional value chain, which presumably refers to the two options of hierarchical vs. market governance, might be too narrow to explain the dynamics of value chains and linkages, particularly in two-sided business models that may often have two separate value chains. The attention to, and notion that, a business model may have more than one value chain, and the authors' inclusion of network governance in their business model conceptualization, seem to be the authors' suggested solution to a more sophisticated, realistic way to look at value chains and linkages. The authors do not explicitly define their concept of network governance, but we interpret it to be similar to that which Haugland & Methlie (2015) call relational governance. To sum up then, we interpret the fixed business model component value chain and linkages to mainly refer to hybrid transaction cost economics, comprising the three variable components hierarchical governance, market governance, and network governance.

2.4.5. Section summary

Baden-Fuller & Haefliger's (2013) business model conceptualization consists of the four fixed components customer identification, customer engagement, monetization, and value chain and linkages. Under customer identification we find variable components one-sided and two-sided business models. The notion of one- vs. two-sided business models is a new, interesting nuance to our business model discussion. Under customer engagement we have bus vs. taxi as customer targeting options, closely linked, in effect, to Haugland & Methlie's (2015) previously discussed notion of value proposition. The monetization component constitutes a highly valuable, elaborate perspective on a business model's options with regards to value capture and the revenue model. Under this fixed component we find the three variable components when, how, and what money is raised, interpreted by us as timing, pricing strategies, and payment base, respectively. Finally, we have the value chain and linkages fixed component, which relates to hybrid transaction cost economics. In addition to hierarchical and market governance, Baden-Fuller & Haefliger (2013) introduce so-called network governance as a third option, which we interpret to be similar to that which Haugland & Methlie (2015) call relational governance. Table 4 sums up our key takeaways from the section:

Table 4: Baden-Fuller & Haefliger's (2013) business model components

Fixed components	Respective variable components
Customer identification	One-sided, and two-sided business models
Customer engagement	Bus, and taxi
Monetization	Timing, pricing strategies, and payment base
Value chain and linkages	Hierarchical, market, and network governance

2.5. Chapter summary

From our literature review, we have seen that our four consulted main contributions have a variety of rich, interesting considerations on the business model. Largely, we deem all these considerations to

illuminate seemingly reasonable, intuitive, and important aspects of the subject. Furthermore, while the four papers have many similarities, we would argue still that their perspectives and main focus differ to a significant extent. We argue that there ultimately is a relative large degree of heterogeneity among the four contributions we have consulted. Hence, our impression is that the business model field still, to a non-trivial degree, lacks uniformity, completeness, and agreement on what a business model really is. Our impression of the literature is consequently in support of the conclusion in Amit, et al.'s literature review from 2011, which we discussed in the introduction to the paper. Nevertheless, the four main papers investigated in chapter 2 provide a broad range of intriguing structural and content-related views on the business model whose combination and synthesis would be very interesting to attempt. We will now summarize the key takeaways on these two aspects in turn, starting with structural concerns.

With regards to structure, we have seen that our reviewed authors largely speak of the business model as consisting of certain fixed components, and certain variable components. In Zott & Amit (2010), first, the fixed components were called design elements, while the variable components were called design themes. In their text, we interpreted the variable components to be pictured as rather general variables that could, initially be used to modify any fixed component. Teece (2010), second, spoke mainly of fixed business model components. He introduced what we interpreted as fixed business components on different levels; He pictured value creation, value delivery, and value capture as overarching components of the business model, that each had respective, accompanying fixed sub-components belonging to them.

Haugland & Methlie (2015), third, provided in our interpretation a highly nuanced structural view on the business model. To start, their work distinguished between fixed business model components and variable business model components, which they called dimensions, and design elements, respectively. Their variable components were different in nature than those of Zott & Amit (2010), however. Haugland & Methlie's (2015) variable components were located as specific sub-pieces under each of the different fixed components. Their variable components were thus not general in nature, as in Zott & Amit (2010), but rather belonging to one particular, fixed component, and not to others. Haugland & Methlie's (2015) work also, like Teece (2010), briefly and somewhat subtly, perhaps, suggested a business model structure with fixed components on different levels. This was the case specifically for their value network dimension, which we interpreted as an overarching,

fixed component comprising the two accompanying, subordinate fixed components governance and structure. Finally, Haugland & Methlie's (2015) paper introduced the concept of service attributes. This concept, which we argued to be transferable to business models in general, was not directly linked to the business model as either a fixed or variable component. It was our view however, that the contents of this concept might broaden our understanding of value creation in a business model, if further developed and connected to other business model components in a sound manner.

Baden-Fuller & Haefliger (2013), fourth and last, pictured a business model with certain fixed components and certain variable components. Their logic was similar to that of Haugland & Methlie (2015), in the sense that their suggested variable components were not general in nature, but located as subordinate modification options to one particular, fixed component, and not to others.

With regards to content, Zott & Amit (2010), first, introduced the activity system perspective on the business model, in which the business model was portrayed as an intricate, interactive ecosystem of numerous players. They suggested a business model consisting of the fixed components design element content, structure, and governance, and the broad, general, variable components design theme novelty, lock-in, complementarities, and efficiency. These design themes were summarized by the acronym NICE. We deemed design element content to be a rather wide concept whose utility would increase through further decomposition. We followingly interpreted design element structure as referring to an organization's value chain, and design element governance as traditional transaction cost economics (i.e. hierarchical vs. market governance). With regards to the NICE design themes, we inferred these to be intuitive drivers of value in a business model.

Teece (2010), second, introduced value creation, value delivery, and value capture as fixed, overarching components of a business model. We inferred from his article that he implicitly related Porter's generic strategies to value creation, as a fixed, respective sub-component. Furthermore, we inferred from his article that value chain was a fixed sub-component belonging specifically under value delivery, and that governance, which was interpreted to refer to traditional transaction cost economics, was a fixed sub-component belonging to both value delivery, and value capture.

Regarding Haugland & Methlie (2015), third, to start, we recite that we inferred from their article value network as a fixed, overarching business model component. This component in turn had governance, and structure as fixed, respective sub-components. Governance, referring to hybrid transaction cost economics, was in turn decomposed into the three respective, variable components

hierarchical, market, and relational governance. Structure was omitted in Haugland & Methlie's (2015) analysis, but we inferred this concept to refer to value chain considerations beyond those addressed by governance. Other components in Haugland & Methlie's (2015) conceptualization were the fixed component revenue model, with respective, variable components value capturing, and value sharing, the fixed component customer targeting, with respective, variable components cost leadership, and differentiation, and fixed component value proposition, with respective, variable components standardization, customization, and scope.

From the discussion of the revenue model, we endorsed the idea that revenue source identification and pricing strategies are important in this regard. Customer targeting referred to Porter's generic strategies (cf. Magretta, 2011), while the value proposition reflected a business model designer's choices with regards to marketing positioning. Finally, Haugland & Methlie (2015) introduced the concept of service attributes. Although not being directly linked to the business model as a fixed, or variable component, we interpreted service attributes to be an interesting nuance to business model value creation. The three sub-pieces of services attributes were intrinsic attributes, user-size external attributes, and complement external attributes.

Baden-Fuller & Haefliger's (2013) business model conceptualization, last, consisted of the four fixed components customer identification, customer engagement, monetization, and value chain and linkages. Customer identification comprised the two, respective, variable components one-sided, and two-sided business models, and customer engagement included the two, respective, variable components bus, and taxi. The customer engagement concept was interpreted to coincide with Haugland & Methlie's (2015) notion of the value proposition, though with one less variable than the latter. monetization comprised the three respective, variable components timing, pricing strategies, and payment base, and was connected to value capture and a business' revenue model. Finally, value chain and linkages was interpreted in light of hybrid transaction cost economics, involving the three variable, respective components hierarchical, market, and network governance. Network governance was interpreted to coincide with Haugland & Methlie's (2015) concept of relational governance. In the next chapter, we will attempt to combine, synthesise and expand on the many takes on business model structure and content summarized in this section.

3. THE CONCEPTUAL, GENERAL BUSINESS MODEL FRAMEWORK

As we have seen from our review of the business model literature in chapter 2, the business model field appears to be rather ambiguous and fragmented, and final, common agreements on definitions still seem to be lacking. Although clearly having similarities, our reviewed authors put their main attention to quite different aspects of the business model. Largely, however, the range of different business model components that our selection of contributors illuminate all appear intuitive, reasonable and important. In this section, we amalgamate our findings and interpretations from the theoretical review in chapter 2 into one holistic, general, conceptual business model framework. All independent business components we have thus far discussed will hence be presented and connected here, and some new, suggested components from the field of strategy will be suggested from our side. The final framework we present in this chapter consequently represent our take on the business model.

The structure of our suggested business model framework represents a synthesis of the structural considerations in the four contributions from our literature review. First, we bring with us the idea of fixed business model components on different levels, inspired by Teece (2010) and Haugland & Methlie (2015). Second, we incorporate the idea from Zott & Amit (2010), Haugland & Methlie, and Baden-Fuller & Haefliger (2013) that a business model consists of certain fixed, components, and certain variable components that can be used to customize the fixed ones. Third, with regards to the variable components in our model, we choose to follow the logic of Haugland & Methlie (2015), and Baden-Fuller & Haefliger (2013), and conceptualize the variable components as specific (i.e. not general) modification options belonging to one, particular, fixed component, and not to others. As regards terminology, we will in our framework use the wording of Haugland & Methlie (2015), calling the fixed components of our model “dimensions”, and the variable components “design elements”.

Our business model conceptualization will have four hierarchical levels. The headline and point of departure in our framework, i.e. its uppermost level, is the ultimate, holistic research subject of our study, namely the Business Model. The Business Model is followingly decomposed into three broad business model domains, which we call overarching dimensions. These overarching dimensions,

inspired by Teece (2010), are called value creation, value delivery, and value capture. Each overarching dimension is in turn decomposed into what we call sub-dimensions, and finally, each sub-dimension is decomposed into variable design elements. For each step downwards in the hierarchy, the concepts hence become more narrow, concrete, and specific. In the following, each overarching dimension with respective sub-pieces will be discussed and analyzed in turn, before we finally present our complete business model framework. We note that all components from chapter 2 will be addressed in the following, with the exception of Zott & Amit's (2010) fixed component "design element content", which we deem too broad to in itself be useful as one discrete, subordinate component of the business model.

In our framework, dimensions will be represented by rectangles, and design elements by pentagons. Overarching dimensions are given in red rectangles, and sub-dimensions in yellow rectangles. As will be evident in the following, we have two kinds of design elements, that in our model are depicted as either blue or green pentagons. Blue pentagons represent that which we call mutually exclusive design elements, while green pentagons represent that which we call mutually compatible design elements. We added this nuance to our model in an attempt to increase the framework's precision. We argue that while some design elements could be stated to be mutually exclusive, either-or options, other design elements should rather be said to complement each other.

Furthermore, one last nuance incorporated in the colour codes of the design elements should be noted. While we argue that blue design elements should largely be considered fully decomposed variables ready to use in order to configure the sub-dimension under which they belong, this is not necessarily the case for the green design elements. Many green design elements could be argued to still be relatively broad and open to further decomposition. Despite the possibility of decomposing the green design elements further, however, we chose to restrict our framework to four hierarchical levels, for practical reasons.

We will now lay out each of our three overarching business model dimensions; value creation, value delivery, and value capture, before we end up with a presentation of our complete business model framework.

3.1. Value Creation

The first overarching dimension in our business model framework is value creation. There are many components from our literature review that we argue to fit well into the value creation domain of the business model. Zott & Amit (2010) suggest their NICE design themes (i.e. novelty, lock-in, complementarities, and efficiency) as tools for value creation in the business model. Teece (2010), in addition to being our source of inspiration for the overarching value creation dimension, speaks of Porter's generic strategies (cf. Magretta, 2011) in relation to the subject of creating value. Haugland & Methlie (2015) provide several valuable inputs to value creation. To start, it is our interpretation that these authors, like Teece (2010), discuss Porter's generic strategies in relation to value creation, through their concept of customer targeting. Followingly, Haugland & Methlie (2015) introduce their notion of the value proposition, which corresponds to a firm's positioning options from a marketing perspective. This concept comprises sub-components standardization, customization, and scope. A final contribution from Haugland & Methlie (2015) that we interpret in light of value creation, is their notion of service attributes, which includes sub-components intrinsic attributes, user-size external attributes, and complement external attributes. From Baden-Fuller & Haefliger (2013), finally, we interpret customer engagement, with sub-components bus and taxi, as a value creation aspect. This concept is coinciding with Haugland & Methlie's (2015) notion of the value proposition.

In our value creation framework, the first sub-dimension is titled Porter's generic strategies. This is a combination of our interpretation of Teece's (2010) discussion on value creation, and Haugland & Methlie's (2015) notion of customer targeting. The accompanying design elements to this sub-dimension are hence differentiation, and cost leadership. The second sub-dimension in our value creation domain is that which we call customer engagement. This dimension is a combination of Haugland & Methlie's (2015) value proposition concept, and Baden-Fuller & Haefliger's (2013) notion of customer engagement. The customer engagement sub-dimension followingly comprises the three design elements Standardization, Customization, and scope. The third and final sub-dimension under value creation is called attributes. This sub-dimension constitutes a combination of Haugland & Methlie's service attributes (2015), and Zott & Amit's (2010) NICE design themes. Sub-dimension attributes contain the three design elements intrinsic attributes, complementarities,

and user-size and lock-in. The value creation domain of our business model, whose contents will be further elaborated on in the following, is shown in figure 1.

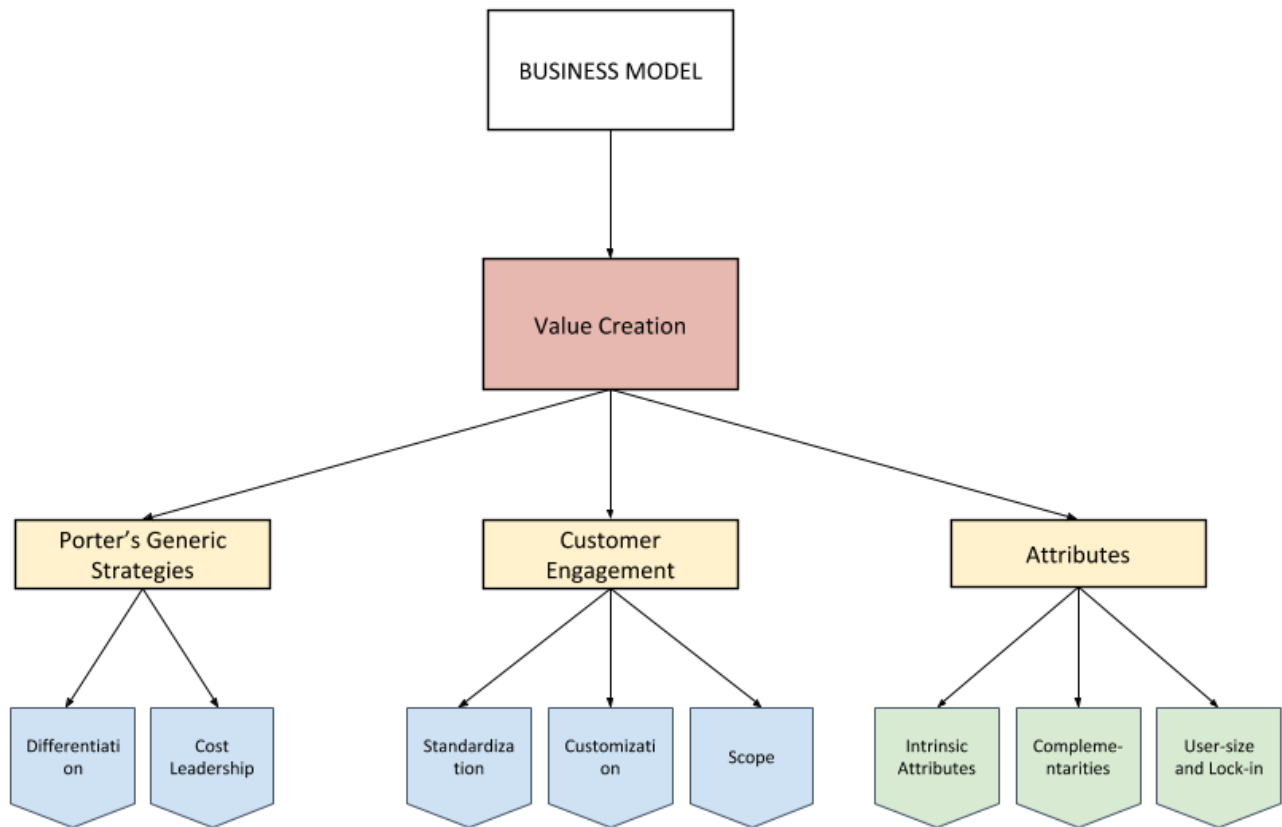


Figure 1: The Value Creation domain of our business model framework

3.1.1. Porter's generic strategies

Porter's generic strategies (cf. Magretta, 2011) is an explicit theory from the field of strategy that we, like Haugland & Methlie (2015) and, implicitly, Teece (2010), include in our business model framework. The exact placement of the theory in our model is, however, somewhat challenging. It is our view that many, perhaps all, business model components could possibly be argued to belong to several, or all, of our overarching dimensions (i.e. value creation, value delivery, and value capture), thus making their final, categorical placement in our business model framework somewhat demanding. This is indeed the case for Porter's generic strategies. We believe that the concept's link to value creation is clear and strong, but this is, however, not the only possible link. For example, there is also a clear link between Porter's generic strategies and the value chain, which in our framework will be part of value delivery. This link is significant as well, as no strategy is effective

without a carefully crafted value chain tailored to serve it (Magretta, 2012). Nevertheless, in creating a manageable business model framework, simplifications are necessary. We find Porter's generic strategies to resonate especially well with a customer-oriented, value-creating perspective, and therefore choose to place Porter's generic strategies here, i.e. as part of the value creation.

As the blue colour of the sub-dimension's two design elements cost leadership, and differentiation suggest, a firm has to make a mutually exclusive choice between these two alternatives. We emphasize that a firm has to make a true *choice* on the matter, as trying to please each and every possible customer (i.e. being both differentiated and a cost leader at once) is likely to lead to mediocrity and no competitive advantage at all (Porter, 1992). Porter's generic strategies are well known in academia, and we will therefore not discuss them in detail. Still, we find it important to stress that Porter's generic strategies, and the choice between differentiation and cost leadership, should be used by a firm to discover not only *how* it can create value for its customers, but also how it can create *more* value than its competitors (cf. Allio & Fahey, 2012).

3.1.2. Customer Engagement

Our customer engagement sub-dimension as mentioned refers to marketing positioning, and is a merger of Haugland & Methlie's (2015) value proposition concept and Baden-Fuller & Haefliger's (2013) notion of customer engagement. We consciously chose to adapt Baden-Fuller & Haefliger's (2013) terminology for this sub-dimension, and not that of Haugland & Methlie (2015). Haugland & Methlie's (2015) use of the term "value proposition" in connection to marketing positioning might namely appear somewhat ambiguous when compared to other scholars' use of the word. Michael Porter, to our knowledge, coined the term "value proposition", though with a different meaning than that which Haugland & Methlie (2015) ascribe to the term. We believe that Michael Porter's original conceptualization of value proposition is important to address in relation to the business model, and wish to do just that. Magretta (2011), building on Porter's work, defines the value proposition as "the core element of strategy that defines the kind of value a company will create for its customers" (p. 221). Hence, the original definition of the value proposition seems to reflect value creation in a much broader sense than marketing positioning.

Michael Porter's notion of the value chain (cf. Porter, 1992) is a theory from the field of strategy that we consider essential in relation to the business model. It is our impression that the essence of the

theory has been incorporated in all four main works we reviewed in chapter 2, although not in a very clear and explicit manner. In this text, we note that the Michael Porter's value proposition will be interpreted as our wide, overarching dimension of value creation. Value creation is hence the place in our model where we mean to incorporate the term in its original form. Regarding the three design elements under customer engagement in our framework, that is Standardization, Customization, and scope, we argue that for one, given customer segment, the design elements should be considered mutually exclusive. The design elements hence have a blue colour.

3.1.3. Attributes

In this sub-dimension, we seek, as previously stated, to combine the concepts of Zott & Amit's (2010) NICE design themes, and Haugland & Methlie's (2015) service attributes. In order to possibly connect the abovementioned ideas in a precise manner, we must consider two things. First, we need again to consider the discussion of attributes vs. benefits from section 2.3.4. Decisive for our ability to use Zott & Amit's (2010) NICE design themes together with Haugland & Methlie's (2015) attributes, is whether the NICE design themes can be considered to be descriptive, objective and modifiable attributes, and not customer-subjective benefits. We argue that the NICE design themes, based on their depiction in Zott & Amit (2010) as features that are modifiable at the business model designer's discretion, can indeed be regarded as attributes.

Second, we should reflect more deeply on the fact that Zott & Amit (2010) use their NICE design themes in a quite different manner than the manner in which Haugland & Methlie use their service attributes. To start, Haugland & Methlie's (2015) service attributes, in the authors' conceptualization, are not directly connected to the business model as innate components. It is our belief, however, that the underlying essence of service attributes can be interpreted as part of, and enhance the understanding of, the value creating mechanisms available in a business model. This result, we believe, can be obtained particularly well when the service attributes are combined with Zott & Amit's (2010) NICE design themes in a separate sub-dimension.

Furthermore, while Haugland & Methlie (2015) talk of attributes specifically in relation to creating value in a firm's products or services, Zott & Amit's (2010) NICE design themes seem, in the form the authors presented them, to be broader value creating features that in principle can be applied to any component within the business model. In order to create a manageable, delimited framework,

however, we chose, despite losing the aforementioned nuance, to place the NICE design themes in one, categorical place in our framework. We argue that the NICE design themes at the core has to do with value creation, and therefore that they conceptually might fit especially well under the value creation umbrella, where we indeed choose to place them. The reader should keep in mind that this is indeed a simplification, and we still emphasize that the holistic perspective on the business model should never be ignored. By this, we mean that no one component of the business model should be considered in isolation. Rather, all the components of the business model need to harmonize with each other and make sense, and so too with regards to a business' choice of attributes.

With regards to a more specific pairing of Zott & Amit's (2010) NICE design themes, and Haugland & Methlie's (2015) service attributes, we find a rather straight-forward similarity between the two articles to be that of Haugland & Methlie's (2015) complement external attribute, and Zott & Amit's (2010) design theme called complementarities. These concepts represent the same concept, and will in our model be one concept simply called "complementarities". Concerning Haugland & Methlie's (2015) user-size external attribute, as discussed in Zott & Amit (2010), user-size is one example of a lock-in effect. Lock-in and user-size are not necessarily the exact same thing, however, as they may both be nuanced further. For example, an additional user-size attribute could be the Bandwagon effect (cf. Pindyck & Rubinfeld, 2005), and as discussed in Zott & Amit (2010), another possible, user-size-independent lock-in effect could be the aversion to change a given offering for another, if one has already invested time in the initial offering. To account for these nuances, Haugland & Methlie's (2015) user-size external attribute and Zott & Amit's (2010) lock-in design theme will in our model be combined into one concept with the name "user-size and lock-in".

We subsequently find it reasonable to make a connection between Zott & Amit's (2010) novelty and efficiency design themes, and Haugland & Methlie's (2015) intrinsic attributes. It is possible to imagine a connection between novelty and efficiency and Haugland & Methlie's (2015) other attributes (i.e. user-size and complement attributes) as well. Still, we believe that the match between novelty and efficiency, and intrinsic attributes, might be the best relative choice, and thus choose to simplify the concepts by tying novelty and efficiency to intrinsic attributes exclusively. intrinsic attributes hence become one concept in our model that encompasses novelty and efficiency from Zott & Amit (2010), and Haugland & Methlie's (2015) examples of usefulness, functionality, and enjoyment. We note as a clarification that we by efficiency refer to resource-efficiency, and that we

by enjoyment refer to emotional pleasure. The attributes sub-dimension in our model hence ultimately constitutes the three design elements intrinsic attributes (novelty, efficiency, usefulness, functionality, and enjoyment), user-size and lock-in, and complementarities.

With the exception of lock-in, we find it reasonable to argue that a business model designer should seek to include as many of our discussed attributes in her business model as possible. With the exception of lock-in, our perception is that all attributes mentioned in this section affect the value of a business model's offerings in an unambiguously positive manner. We argue, however, that lock-in is an attribute that should be treated with caution. The presence of a lock-in would tie one's customers to one's offerings, but it might also, for the same reason, increase the perceived risk of prospect customers, and thus raise the threshold for purchase. The decision of whether to include lock-in as an attribute in one's offerings, should hence be considered a trade-off between these effects, and should be evaluated holistically together with other business model components for the firm in question.

The three design elements in attributes, i.e. intrinsic attributes, complementarities, and user-size and lock-in, are coloured green in our framework. This colour reflects our argument that these design elements should not be considered as mutually exclusive, but rather as features of a business' offerings that can complement each other. Furthermore, the green colour indicates that some, or all, of these design elements could possibly be further decomposed. This is a notion that a business model designer should keep in mind. We believe the possibility of useful, further decomposition to be particularly relevant for intrinsic attributes, and user-size and lock-in. However, as previously argued, we limit our framework to four dimensions in this text for practical reasons.

3.2. Value Delivery

Value delivery is a concept that in our view has been treated rather vaguely by the authors in our literature review. Still, Teece (2010), despite being diffuse on its content, conceptualized value delivery as a key, overarching component in a business model, in line with, and inherently connected to, value creation and value capture. This is a perspective we endorse. We consider the value delivery function of a business model to be intuitive and important, and worthy a more thorough and clear consideration. Value delivery will in our business model framework constitute the second, overarching dimension, and deals with a business' value chain, and governance. The value chain,

and governance are two areas of value delivery we consider to be of high importance. Furthermore, we believe that by separating these two areas explicitly, in a precise manner, a detailed, refined view of the subject could be obtained.

The value chain is the first key area of value delivery. On the topic of the value chain's role in a business model, we saw earlier that Zott & Amit (2010) hinted to this idea, though somewhat vaguely perhaps, through their design element "structure". This concept, which in Zott & Amit's (2010) article was explicitly distinguished from the notion of governance, seemed to refer to the logic of a firm's value chain, as it pointed to the significance of considering the linkages between activities in the business model, and the activities' respective importance. With regards to Teece (2010), we saw that he seemed to suggest the value chain, distinguished from governance, as a direction of thought for the analysis of value delivery, without delving into the topic in more detail. Moreover, Haugland & Methlie (2015) and Baden-Fuller & Haefliger (2013) touched upon the subject of the value chain as well, and seemed to deem the value chain important to a business model. Like Teece (2010), however, neither of these two contributions investigated or explained the specifics of this concept in detail.

Due to the apparent importance of the value chain in a business model, and the fact that none of the aforementioned authors have delved into the topic in detail, we suggest viewing the subject of the value chain through the eyes of theories from Michael Porter (cf. Magretta, 2011). Furthermore, in order to illuminate interesting nuances and considerations of the value chain, we suggest a distinction between what we call the internal value chain, and what we call the external value chain. The internal value chain, and The external value chain will be the two first sub-dimensions belonging to value delivery. Soon, we will take a look at these sub-dimensions in depth.

governance is the second key area of value delivery. In Zott & Amit (2010), governance was addressed, vaguely, through their design element with the same name. We interpreted this concept to refer to traditional TCE with the two well-known options of hierarchical vs. market governance. Teece (2010) also, subtly, discussed governance in light of traditional TCE, in connection with both his value delivery, and value capture concepts. Haugland & Methlie (2015) explained governance as a sub-component of their value network concept, with governance referring to a variant of transaction cost economics that we might call hybrid TCE. Their version of TCE included relational governance as a third, additional option. Baden-Fuller & Haefliger (2013), finally, dealt with

governance through their value chain and linkages concept. Like Haugland & Methlie (2015), Baden-Fuller & Haefliger (2013) dealt with governance through a kind of TCE that we may call hybrid TCE, though with network governance as the third option. We interpreted network governance to coincide with Haugland & Methlie’s (2015) concept of relational governance. Our four reviewed contributions’ concepts of governance will be amalgamated into a third and final sub-dimension under value delivery, called governance. Soon, we will take a detailed look at this sub-dimension’s content as well.

In our value delivery framework, then, we first find sub-dimension internal value chain (Porter’s value chain), with design elements selected primary activities, selected support activities, and deselected activities. Second, there is sub-dimension external value chain, with corresponding design elements value chain placement, and Porter’s five forces. Third and finally, we have sub-dimension governance, with the three accompanying design elements market governance, hierarchical governance, and relational governance. The value delivery domain of our business model, whose contents will be further elaborated on in the following, is shown in figure 2.

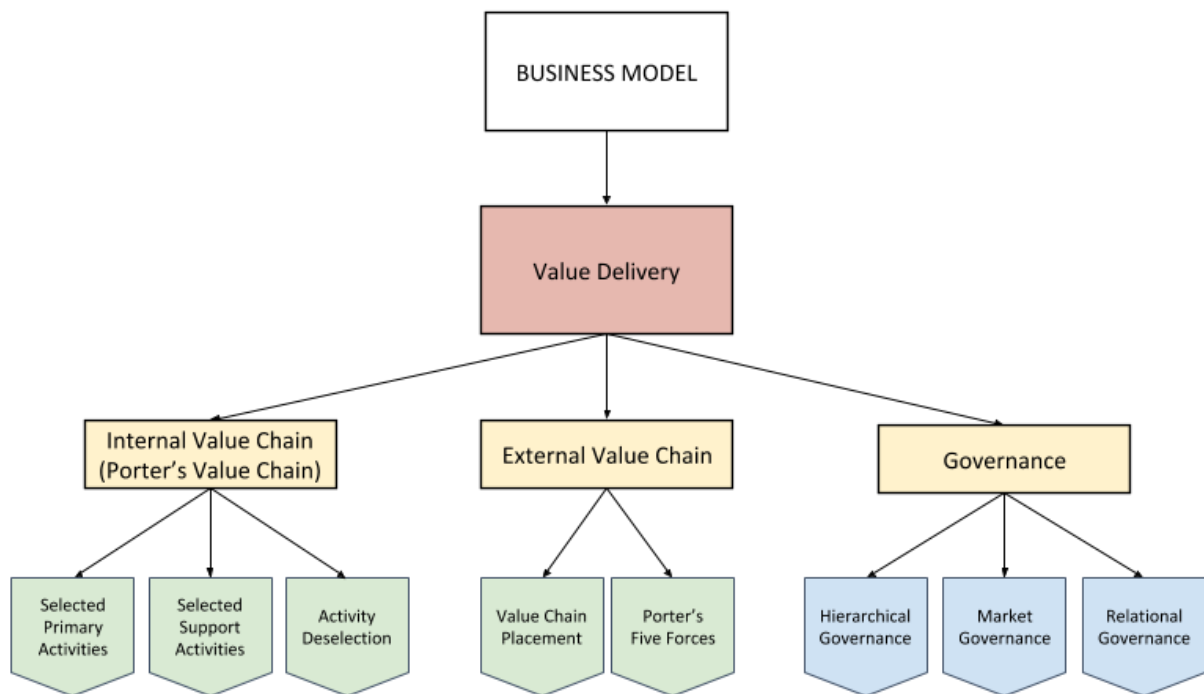


Figure 2: The value delivery domain of the Business Model framework

3.2.1. The Internal Value Chain

The internal value chain sub-dimension, first, equals Porter's value chain (cf. Magretta 2011). We deem this theory from the field of strategy, which would seem to have been addressed rather shallowly in Zott & Amit (2010) and not to a noteworthy extent in the other works we considered in chapter 2, to be of high relevance for the business model. As Magretta points out in her review of Porter's work, the value chain can be envisioned as "the set of all the discrete activities a firm performs in creating, producing, marketing, and delivering its good or service" (2011, p. 221), a statement that, hence, can be interpreted as the activities that happen *inside* a firm, not outside of it. Broadly speaking, the firm's value chain consists of two types of activities; the activities related to making something, and the activities related to selling something (Magretta, 2002). Moreover, a firm has some primary activities, and some support activities. The primary activities can be interpreted as the physical creation of a firm's offering, or in other words, the direct transformation of inputs into outputs. The support activities, then, can be said to serve the purpose of making the primary activities more efficient and effective.

We would like to stress our view that understanding one's internal value chain, and the configurative possibilities that lie there, is an important step on the way towards understanding the business model and business model innovation. Not only can a manager change the prioritization of activities (i.e. primary vs. support activities), she can also decide on which activities should be part of the business, and, perhaps more importantly, which activities that should not. These choices can moreover change over time. Making conscious selections and deselections with regards to the value chain is important, and inherently connected to strategy. Magretta, on the topic of competitive advantage, states that "no strategy is meaningful unless it makes clear what the organization will *not* do" (Allio & Fahey, 2012, p. 6). Making an explicit choice of what *not* do, is furthermore something that managers often fail at (Magretta 2012).

The key takeaways here are that a business model designer can, at her discretion, decide on the respective priority of activities in her firm's value chain, and select or deselect (i.e. add or remove) activities that should belong there. With regards to selecting or deselecting activities in a value chain, we argue that there are two main nuances worthy a discussion here. First, one could consider the option of removing an activity from a business model's value chain completely, i.e. deciding that the activity will neither be performed by the focal firm, nor by anyone else. An example of this could

be airlines companies that remove catering from their flights all together, to save costs. Second, one could consider the option of whether a particular activity should be done by the focal firm itself (i.e. implemented in the focal firm's own internal value chain), or whether someone else in the focal firm's ecosystem should do it (i.e. remove the activity from the focal firm's internal value chain, but keep it in the focal firm's ecosystem). The particular issue of whether to conduct a particular activity internally or let other players in one's ecosystem do it, is a topic that could be much more elaborated. The two other sub-dimensions in our value delivery framework, i.e. the external value chain, and governance, will take a closer look at this issue. We stress that what matters here, for the question of the internal value chain, is which activities the focal firm should do itself, and which it should not.

To sum up, the two choices for the internal value chain is the prioritization of (selected) activities, and the overall choice of selecting or deselecting activities from the firm's own value chain. These two choices are combined into the three design elements, selected primary activities, selected support activities, and deselected activities, which are marked in green as they are mutually compatible.

3.2.2. The External Value Chain

The external value chain sub-dimension in our model illuminates conditions and relationships in a firm's value chain and market that are relevant and purposeful to consider, but which go beyond the aspects covered by the internal value chain, and by governance, which will be addressed later on. The first design element we suggest for the external value chain is called value chain placement. This design elements builds on and explicates insights from Zott & Amit (2010). Value chain placement considers the significance of making a conscious choice on where to place oneself in the value chain of the market, or, in other words, on where to place oneself in the value chain of one's ecosystem. Value chain placement hence deals with the choice of whether to place oneself upstream, midstream or downstream in an ecosystem's value chain. The importance with regards to this selection can be illustrated e.g. by engineering start-up firm FriCSO mentioned previously in Zott & Amit (2010). FriCSO faced a fundamental choice of where to place themselves in the value chain of the market; they had to choose whether to compete against established engineering firms, or to become their partner as a supplier (p. 216). They choose the latter alternative, which, according to the authors, was essential to the survival of the firm (ibid.).

Our notion of value chain placement is closely tied to the phenomenon that Magretta (2011) calls the “value system”, defined as “the larger set of activities involved in creating value for the end user, regardless of who performs those activities” (p. 74). Value chain placement, which puts attention to the activities that happen *outside* a firm, thus goes beyond the internal value chain, which puts attention to the activities that happen *within* a firm. The value chain placement concept adds value to the understanding of the business model through simply shedding light on the issue, and differentiating itself from the internal value chain. Simple awareness of one’s placement in the market’s ecosystem as a business model configuration option, we believe, has intrinsic value. However, we argue that the external value chain concept can enhance the business model understanding further still by connecting it to yet another renowned strategic, analytical tool from Michael Porter, that is, Porter’s five forces. Porter’s five forces (cf. Magretta, 2011) is a theory from the field of strategy that to our knowledge has not explicitly been incorporated into a business model framework before. Porter’s five forces the second design element in our external value chain sub-dimension.

As Porter’s five forces is a prevalent and well-known theory, we limit its explanation here. We note some key takeaways however, starting with the notion that this framework focuses on the (competitive) structure of a given industry, comprising the elements “rivalry among existing competitors”, “threat of substitute products or services”, “threat of new entrants”, “bargaining power of suppliers”, and “bargaining power of buyers”. (Magretta 2011, p. 37). The theory helps managers understand an industry’s average prices and costs, and, importantly, how one’s firm could do *better* on these two factors than its competitors (ibid.). Porter’s five forces thus explain key features of a given market, that should to a large extent be considered fixed. It is however important to note that Porter’s five forces can help managers identify which market, or industry, that seems most promising. The choice of markets is, naturally, a variable that managers indeed can modify.

Another, related consideration particularly important to emphasize in the context of business model innovation, is that the five forces framework is an equally useful tool to use in the case of innovative firms entering an industry that might not yet exist (Magretta 2012). The argument for this view is that the structure of a new industry can develop in many directions that, after first having been established, can be difficult to change. It is thus imperative for new innovators to understand the possible pathways that exist, in order to choose the most promising one (ibid.). This rationale relates

closely to the field of Blue Ocean strategies (cf. Kim & Mauborgne, 2004), which is a field that seems to have an intuitive and interesting connection to business model innovation, but which we, however, choose to exclude from our text for delimitation reasons. A final insight we find especially relevant to our external value chain concept, is that Porter's five forces could look significantly different for different selections of value chain placement. For example, for the aforementioned engineering start-up firm FriCSO, the outcome of a Porter's five forces analysis would look very different, should they choose to enter the industry as a competitor to the established manufacturing firms rather than a supplier

With regards to structure, we recite that many, perhaps all, of our discussed business model components could be claimed to belong to several, or all, of our three overarching dimensions (i.e. value creation, value delivery, and value capture), thus making the ultimate placement of a business model component in a business model framework challenging. This issue also applies for the choices of value chain placement and market selection; that which we in aggregation call the external value chain. As noted, we argue that the external value chain should be related to value delivery. As Zott & Amit (2010) state, however, the kinds of choices we discuss here have obvious effects on a firm's opportunity to create and capture value as well (p. 218). We agree to this statement. Nevertheless, in creating a manageable business model framework, simplifications are necessary. We ultimately find the underlying logic of where to place one's business in one's ecosystem to harmonize particularly well with a value chain (i.e. value delivery) perspective, and thus we place our notion of the external value chain here, under our value delivery dimension.

The broadened perspective on the value chain that our sub-dimension external value chain allows for, has the potential to be very useful. In actuality, viewing one's company in too fixed, rigid frames could be a challenge for a firm's ability to conduct business model modification and innovation. This is perhaps particularly relevant for external value chain considerations, especially for traditional, production-based firms, as Kindström & Kowalkowski discuss in their 2014 article. Therefore, notably with regards to the apparent, general trend of ever-increasingly complex business models we observe today (cf. Baden-Fuller & Haefliger, 2013, on one-sided and two-sided business models), we believe that our wide perspective on the matter here could be quite helpful.

Finalizing the section, the representation of the external value chain sub-dimension in our framework will, based on our above discussion, include the two design elements value chain placement, and

Porter's five forces. Naturally, these design element has a green colour, due to their possibility of being decomposed further, into three forms of value chain placement (i.e. upstream, midstream, downstream), and the five actual forces of the framework, respectively. As previously stated however, we limit our model here to four hierarchical levels.

3.2.3. Governance

Having discussed the value chain aspect of our value delivery domain, we now proceed to the domain's third and last sub-dimension; governance. As we indicated in the introduction to the section, governance as a business model component is a recurring notion in the literature we have considered, though with various perspectives and a certain degree of ambiguity. From our theoretical review, governance has generally referred to transaction cost economics (TCE). As mentioned, both Zott & Amit (2010), and Teece (2010) talked of governance in a manner that we interpreted to correspond to traditional TCE, with the two governance options of vertical integration, and market governance. Haugland & Methlie (2015) talked about governance in terms of an extended version of transaction cost economics we called hybrid TCE, introducing a third governance option called relational governance. Baden-Fuller & Haefliger (2013) also dealt with governance through an extended version of traditional transaction cost economics that we called hybrid TCE. Their third, additional governance mechanism was called network governance, which we interpreted to coincide with relational governance.

As we can see, all the four main works we have reviewed discussed TCE in some form or another, more or less clearly, when the concept of governance was addressed. TCE is also the lens through which we, in our framework, choose to view governance. Using TCE is an approach that we endorse, as we deem the theory to be a powerful tool through which one can create a coherent understanding of governance, and its underlying mechanisms, for processes both internally and externally to a firm's operations. TCE is generally well-understood in academia, so we will not delve much into the details of the theory itself here. Our impression is, however, that with regards to the treatment of TCE in the literature, there is sometimes a lack of clarity on *which variant and underlying mechanisms* of TCE one actually uses. For this reason, we now wish to dedicate some space to clarify the use of the theory in our paper.

We saw on the one side that Zott & Amit (2010) and Teece (2010) seemed to use a *traditional* version of TCE, with hierarchical vs. market governance as alternatives. By traditional TCE, we refer to Williamson (1981), which we mentioned briefly in our discussion of Baden-Fuller & Haefliger (2013). Williamson's (1981) paper illuminates the conditions under which the two different governance mechanisms are appropriate. One of the takeaways from his article, which we argue to be central, is that the degree of asset specificity in a transaction is an essential criterion to use in order to decide whether hierarchical or market governance would be preferable. Haugland & Methlie (2015), and Baden-Fuller & Haefliger (2013), on the other side, explicitly used an *extended* type of TCE that we called hybrid TCE. Relational governance, the third governance option in this version of the theory, adds a new dimension to the narrow hierarchy-market framework, and opens up for a more complex form of governance with less rigid assumptions (Ghoshal & Moran, 1996). Hence, using an extended, more realistic version of TCE seems likely to, at least to a certain degree, alleviate the shortcomings of traditional TCE, whose assumptions could be questioned (cf. our discussion of Zott & Amit's 2010 take on this, in section 2.1.1.). In our model, we mean to use this extended version of TCE, and would therefore specify what we mean by this concept in somewhat more detail.

We consider an extended version of TCE, with the three options hierarchical, market, and relational governance, to build on the works on Poppo & Zenger's (2002) so-called hybrid transaction cost economics (hybrid TCE). This is consequently the term we choose to utilize in our framework. A key logic in hybrid TCE, is that trust and contracts can be considered to be complementarities (Gregory, 2011). An example of how trust and contracts can complement each other, is the notion that well formulated and specified contracts can incentivize long-term relations through an increase of so-called violation costs, i.e. costs related to the breaching of trust (Poppo & Zenger, 2002).

Moreover, Carson, Madhok, & Wu (2006) provide further enlightenment on the subject of hybrid TCE, through their investigation of how its three types of governance can be used to mediate different kinds of uncertainty. In addition to asset specificity, these authors provide an extended focus on the two uncertainty concepts volatility, and ambiguity, as parameters for the choice of governance. For example, they argue that relational governance is preferred over hierarchical governance when volatility is high and ambiguity is low, and vice versa. In our view, one of their main arguments is that formal contracts and relational, trust-based mechanisms are not simple substitutes, as they according to the authors are suited for different situations.

As our suggestion here might suggest, transaction cost economics is a complex field of interacting variables. We hence note that the distinction between the three discrete governance mechanisms hierarchical, market, and relational governance, which we choose to use in our framework, should be considered a crude simplification, and as extremities. In reality, countless combinations of the three governance mechanisms could be imagined, and it should be argued to be rather unlikely that a business model designer would prefer any one of these three in its pure form. For a more detailed discussion of this topic, we refer to Carson et al.'s 2006 article.

governance is a wide concept, and again, the exact placement of any component in a business model framework, such as governance, is a challenging and debatable question. In creating a useable business model framework, however, simplifications are necessary. We believe that value delivery might be a particularly good location for the concept of governance, and will place it here. The design elements in our sub-dimension governance, i.e. hierarchical, market, and relational governance, are as mentioned highly simplified extremities. In reality, the three governance mechanisms mentioned in our model represent outer borders of a continuum, rather than mutually exclusive switches. Hence, while our three design elements in reality can be mixed in any combination desirable, for delimitation purposes, our model will solely utilize their extreme form. In their extreme form, the design elements are mutually exclusive, as is illustrated by the color blue.

3.3. Value Capture

value capture constitutes the third and last overarching dimension of our general, conceptual business model framework. To a large extent, our notion of value capture is tied to a firm's revenue model. Among our four main, reviewed contributions, Baden-Fuller & Haefliger (2013) in our view clearly stood out from the crowd on this subject, and will hence serve as our primary source of inspiration on the manner. From Baden-Fuller & Haefliger (2013), we consider the notions of customer identification, and monetization to be of particular relevance to the revenue model. Customer identification addresses the question of whether the user and payer of a firm's offering are the same party, while monetization elaborates on the pricing-related considerations a business model designer should reflect on. In the value capture domain of our business model, we consequently find the two sub-dimensions; customer identification, and monetization. Under the former, we find design elements one-sided business model, and two-sided business model, and under the latter, we

find design elements pricing strategies, payment base, and timing. The value capture domain of our framework, whose contents will be further elaborated on shortly, is shown in figure 3.

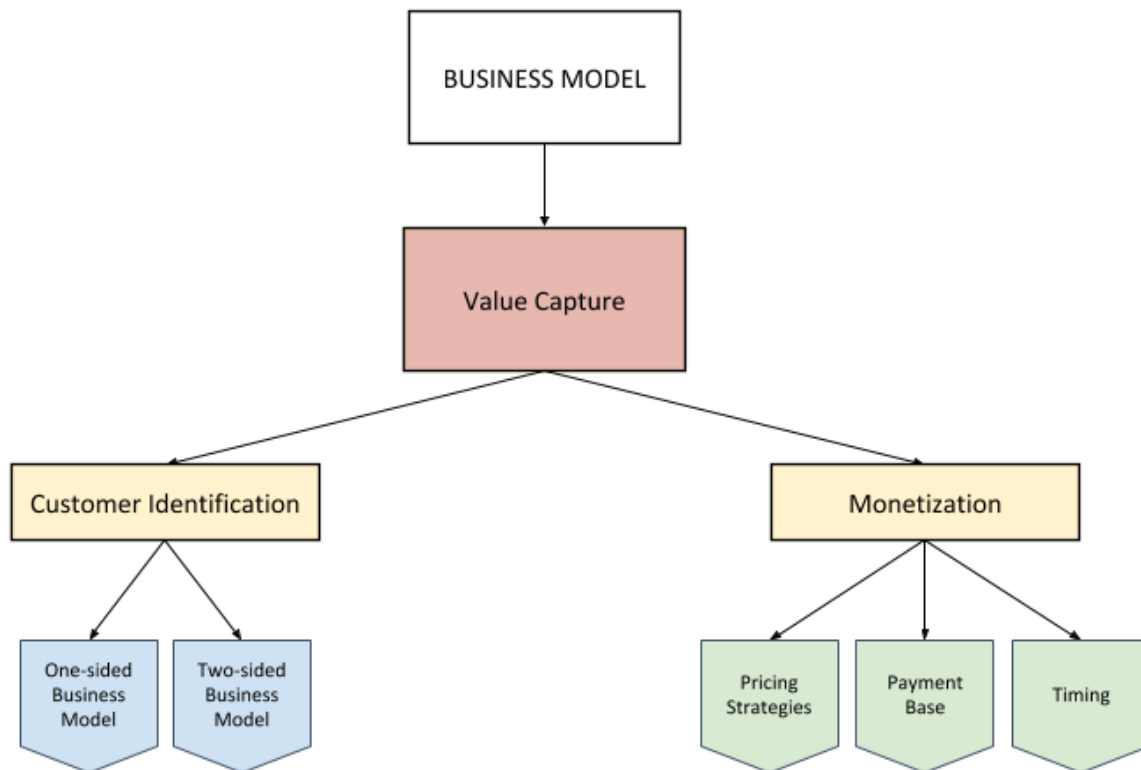


Figure 3: The Value Capture domain of the Business Model framework

3.3.1. Customer Identification

With regards first to sub-dimension customer identification, this concept builds on Baden-Fuller & Haefliger's (2013) concept with the same name. We observed earlier that they, and also Teece (2010), briefly, noted that the user and payer of an offering do not need to be the same party. The separation of user and payer was by services of IT companies, like Google's search engine. We deemed this to be an interesting, and important nuance to our discussion of the business model, and have therefore chosen to incorporate customer identification in our framework.

Our inclusion of customer identification is, however, not unproblematic. Customer identification is in our view the one business model component in our model that might be most difficult to incorporate in a sound manner. First, connecting customer identification to the revenue model, like

we do, has limitations. We argue that, at least to our knowledge and imagination in the time of writing, customer identification only seems relevant for previously discussed businesses like Google and newspapers that have a mix of B2C and B2B offerings, and not for pure B2C or pure B2B businesses. Hence, the utility of customer identification is limited in the two latter cases, but rather substantial in the former case.

Second, customer identification has in our model been placed in one, single, categorical place (i.e. in relation to the revenue model). As mentioned, for many business model components, the question of placement in our framework is not straight-forward. This challenge indeed applies for customer identification. The placement of this specific component is, in fact, particularly difficult. We could namely talk of one-sided vs. two-sided business models in a very overarching way, in the sense that we could have one or two sides of every single component in the business model. By this logic, which we believe to harmonize quite well with Baden-Fuller & Haefliger's (2013) initial thoughts on the matter, we could imagine one- vs. two-sided business models as a new, fifth hierarchical level of the business model, above our three overarching dimensions of value creation, value delivery, and value capture. Practical reasons of delimitation and simplification have, however, led us to conclude that placing customer identification in one, categorical place, is the most convenient option, and the best relative choice.

Given a single, categorical placement for customer identification, we found value capture to be the best net, relative choice, as we find the link to the revenue model to be especially strong, and intuitive. We stress, nevertheless, that this is indeed a simplification, and recite that a holistic perspective on the business model as is fundamental. No component in the business model should be discussed in isolation, but rather, they all need to harmonize and make sense to each other. Considering the design elements under customer identification; one-sided business model, and two-sided business model, these are coloured blue, as they are mutually exclusive.

3.3.2. Monetization

monetization, the second sub-dimension of value capture, deals with the pricing-related options a business model designer faces. monetization and its content, like our previous sub-dimension customer identification, builds primarily on the works of Baden-Fuller & Haefliger (2013). The three

design elements of monetization are pricing strategies, payment base, and timing, and represent tools available for the capture of revenues from a business' operations.

Pricing strategies, to start, encompass e.g. the razor-razor blade model previously mentioned. This concept was first highlighted in Teece (2010), and was referred to by both Baden-Fuller & Haefliger (2013), and Haugland & Methlie (2015). Other pricing strategies mentioned in Baden-Fuller & Haefliger (2013) are two-sided business model dynamics like that of Google's, and freemium models, like that of Spotify. Moreover, we add that the general concepts of price discrimination and product bundling are interesting, additional topics to consider here. Baden-Fuller & Haefliger (2013) touched upon price discrimination briefly and indirectly through their discussion of negotiable vs. non-negotiable prices, for the same underlying offering. We note that price discrimination and product bundling are nuanced, wide concepts that could be expanded much on in relation to the business model. For an extended discussion on these matters, we suggest e.g. Pindyck & Rubinfeld, 2005.

Payment base, in turn, is a design element containing several options. As we noted in our discussion of Baden-Fuller & Haefliger's (2013) paper, this concept refers to the baseline for an offering's pricing. Examples of payment base are value-added pricing, such as for management consultancy firms, or cost-based pricing, such as for construction businesses. Finally, timing, our third and last design element, deals with the point in time that money generated from an offering is collected. As we saw in our exploration of Baden-Fuller & Haefliger (2013), there are several interesting options here. Money could e.g. be collected before the sale, at the point of sale, or after the sale. Furthermore, a business model designer here faces the choice of whether to rent, or outright sell, the firm's offerings.

The design elements under monetization; pricing strategies, payment base, and timing, are coloured green. This colour reflects the notion that these design elements are both mutually compatible and complementary, and possible to decompose further.

3.4. Chapter summary, and conclusion

In this chapter, we have presented our suggestion for a conceptual, general business model framework. The framework is based on a thorough literature review of four main contributions to the

field, and an assortment of ideas, inputs and inspiration from other, additional sources. We have created a synthesis of the structural and content-related perspectives on the business model from the literature we have consulted, and explicitly connected these perspectives to several key topics from the field of strategy. We have, similarly to Teece (2010), conceptualized the business model as having three main domains, or areas. These areas are value creation, value delivery, and value capture, and represent the essence, or essential functions we might say, of the business model. A business model is hence pictured as a wide, general concept dealing with how a business, in interaction with other players in its ecosystem, can create value, deliver that value, and capture parts of that value. Each of our three value-related domains, which we have called overarching dimensions, have in turn been elaborated on and decomposed into fixed sub-dimensions and variable design elements.

Our suggested business model framework represents a holistic, elaborate and detailed view on that which we deem the business model to be. The model comprises four hierarchical levels, including 31 elements in total. Moving from top to bottom, the model breaks down general, overarching concepts into gradually more specific, narrow, and concrete concepts. The red and yellow rectangles show overarching dimensions, and sub-dimensions of the model, respectively. While the red and yellow rectangles show components of the business model that are fixed, the model's lowest layer, i.e. the pentagon-shaped design elements, represent components that are variable. Furthermore, the blue design elements illustrate design elements that are mutually exclusive and completely decomposed, while the green design elements show design elements that are mutually compatible and open to further decomposition. Our final, complete, business model framework is shown in figure 4.

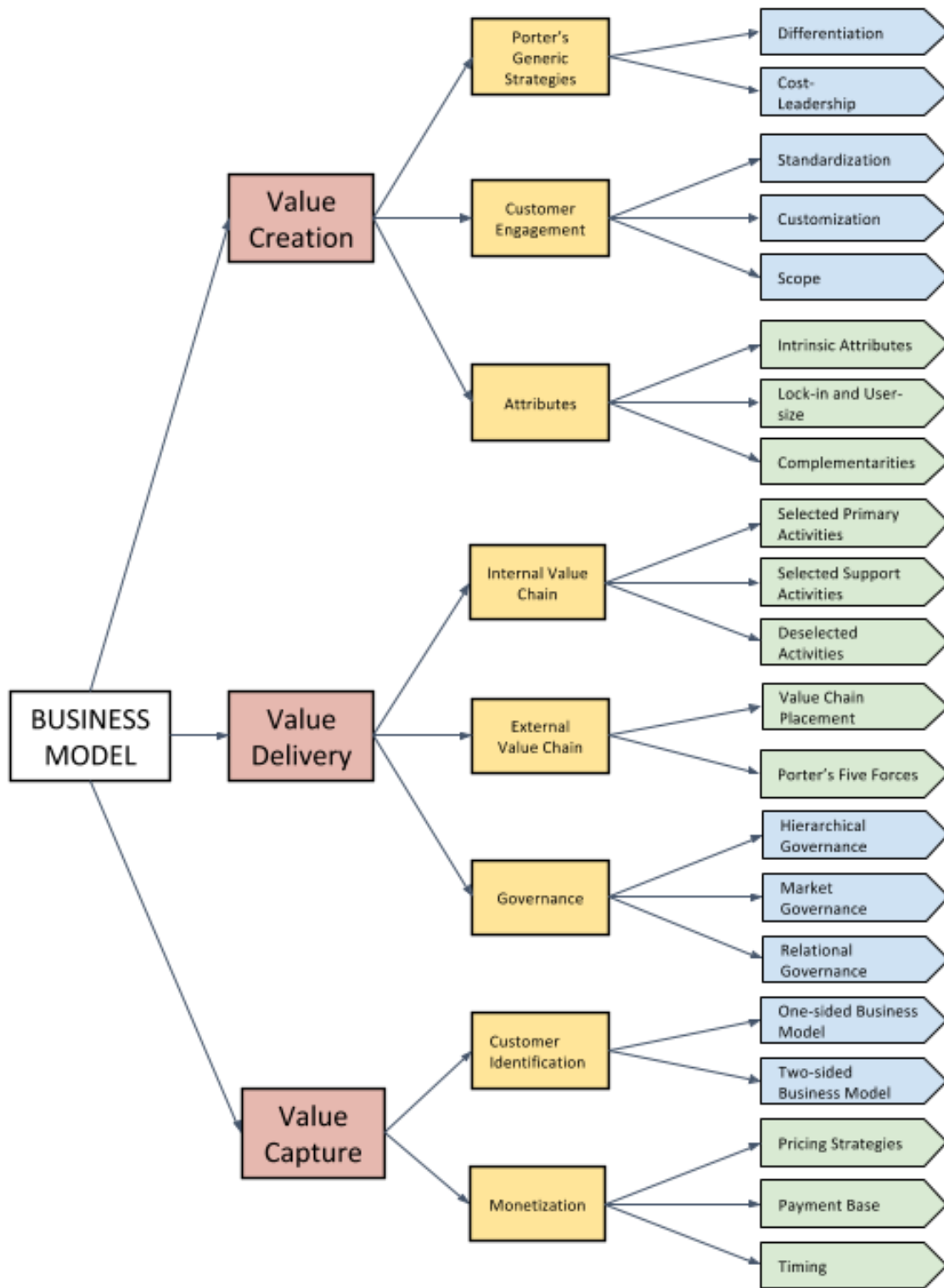


Figure 4: Our complete business model framework

Through this paper, we have clarified a series of components related to the business model, and pieced them together into a comprehensive framework. One might debate which parts of the business model that should be the starting point for business model innovation. In this paper, however, we have chosen not to delve into this question. Moreover, one might debate whether some of the components we have chosen to include in our business model framework are more important than others. We argue that this discussion might direct attention in the wrong direction, as we strongly believe that the crucial fundament of the business model is consistency and soundness. Rather than thinking that one component is more important than another, in our view, what matters is that a business model designer considers the business model, and all of its components, holistically. In other words, the business model, and all of its components, must make sense toward one another.

We recite that our contribution in this paper is conceptual, not prescriptive or typological. Our framework is hence not supposed to tell a business model designer what to do, how his business model should look like, or how specifically he should achieve business model innovation. We believe that a business model needs to take into consideration the particular conditions each specific firm faces, and thus that a business model might be unique from case to case. The business model designer hence needs to find answers to the aforementioned questions himself. Our framework can, however, provide useful assistance to help the business model designer find those answers, by mapping and explaining his business model, and showing him the toolbox of variables available to him for business model innovation.

We believe that a comprehensive business model framework can serve as an instructive, important and dynamic tool, both for proactive innovation, and reactive innovation as a response to changes in one's external environment. As we have seen, the business model is a wide concept that weaves together topics across academic disciplines, managerial focus areas, and elements that are both internal and external to the firm. As Bradford (2015) indicated in the introduction to the paper, changes are these days happening fast, and across every industry. It should be uncontroversial to argue that a business model is bound to change over time. With our framework, which could give a manager an overview of his business model, and the possible modification options that lie there, we hope to aid organizations advance, and respond to, the changes and progress we see in society today, and thus provide a platform for constant business model evolution.

4. METHODOLOGY

4.1. Research approach, and research strategy

A substantial part of our contribution in this paper is theoretical. To exemplify and test our theory, however, we have also conducted an illustrative case analysis. Our case analysis is an inductive, exploratory single case study, and is moreover a qualitative and cross-sectional study based on non-probability sampling. We chose an inductive approach, as the field of business models, as previously mentioned, is a relatively new and unexplored area. To move from data to theory was therefore deemed to be more suitable than the other way around. Our study was exploratory in nature, as we had several open questions we needed to ask. We furthermore required some degree of flexibility in our study due to an unclear starting situation, with little information on what the actual situation would be like. We hence needed to be able to change direction if necessary. Finally, due to the novelty of the field, an exploratory study was considered most relevant and interesting, from an academic point of view.

We decided to do a single case study as a result of our choice to do an inductive, exploratory study. Selecting only one case allowed us to delve relatively deep into the actual situation, a choice likely to result in the case being more interesting for both the firm, and for us. A single, qualitative case study was furthermore deemed appropriate for our scope. Moreover, our study was qualitative, for a two main reasons. Most importantly, we knew in advance that we would have a small sample to work with. Additionally, as both inductive and explanatory studies can be said to seek deep, comprehensive understandings of an underlying subject, a qualitative approach would be a good match in this regard. We furthermore chose to do a cross-sectional case study because it allowed us to do our study for a specific situation, during a specific point in time. Cross-sectional studies are moreover common for master studies, due to time constraints (Saunders, Lewis, & Thornhill, 2012). Last, we used a non-probability sampling method, where our interviewee became involved in our research based on his position in the company, the knowledge he possessed, and the fact that he was the only person who was available from the firm. We had a very small sample size of only one person, for natural reasons. We will elaborate more on these in the next sections.

4.2. Data collection and analysis

With regards first to our data material, the information on Sea-Hawk in this paper relies on communication with one, single person; the company's previous CEO, Ove Hagesæther. Hagesæther served as CEO in the firm from 2011 to 2014, after which he has served as a Board Member. In addition to being a Board Member in Sea-Hawk, Hagesæther today is CEO of Norwegian Centre of Expertise Subsea (NCE Subsea), to which Sea-Hawk is associated as a member. We received information from Hagesæther on in total five main occasions, of which two were personal encounters, and three were written communications.

We started our data collection process with an initial, indicative meeting 18 September 2015, where we received necessary background descriptions of the company. This meeting was followed by several instances of informative email correspondence. We received information from our interviewee through three main emails finding place 8, 22, and 27 October 2015, respectively. The first of these emails comprised an internal product and market analysis, while the two latter were replies to numerous, fundamental questions we asked based on our framework. The information from the first meeting and the three main written communications was used to prepare content for a subsequent, final, semi-structured interview 30 November 2015, with the purpose of clarification and elaboration. The pre-interview information gathering process was necessary, as we only had one chance for a full, deep interview. A semi-structured interview guide, as we used, offers a guideline that lasts through the interview, and a tool for gaining new information while also being able to follow up on new leads. Moreover, a semi-structured interview guide makes it easier to avoid asking unnecessary questions that can make the interviewee uncomfortable. According to Saunders et al. (2012), Semi-structured interviews are the most appropriate when you get only one chance to interview someone.

After the final interview, we first had to do a transcription where we reviewed the interview thoroughly. This transcription also involved looking for possible subtleties, by listening to recordings and taking careful, word-for-word notes. We continuously reviewed and discussed our findings and analysis together, to clarify, and reduce the risk of missing or misinterpreting something. Our theoretical framework was used as a tool to structure the information we received.

4.3. Evaluation of research

Concerning validity in our study, internal validity, first can be reinforced by being persistent on asking follow-up questions, clarifying any unclear answers, and attempting to rephrasing definitions and answers. If more than one interview is conducted with the same interviewee, then it is also possible to repeat questions again to clarify anything unclear. Moreover, it is important to be aware of interviewer and interviewee bias. Interviewer bias can be reduced by reflecting on self-behaviour and formulating questions in an objective manner. Especially leading questions have to be avoided. Furthermore, interviewees might try to avoid negative topics, and speak rather energetically about successes instead. Structuring the interviews can furthermore aid with this issue, as the agenda, this way, will be more set (Saunders et al., 2012). Thus, we attempted to the best of our abilities to handle the issues we just mentioned in the preparation and execution of our information gathering. Regarding the data analysis in the aftermath of the collection process, we sought to review and clarify the information we received to the best of our capability. Nevertheless, at many instances, we had to infer and make interpretations when we elaborated on and analysed the information we received on the five, main, aforementioned occasions. In instances where we did have doubt or did make our own interpretations and inference, we have attempted to clarify this.

With regards to external validity, we recite that we in this paper had a very small sample size of only one person, from whom we received information on five main occasions. The limited amount of data naturally challenges the external validity of our study. Our limited amount of empirical data was, however, due to natural reasons. The first reason was our elaborate focus on the development of a theoretical contribution this time. The second reason was that Sea-Hawk p.t. is struggling in a weak market, and for that reason understandably have had limited time and resources available for us. It is our hope and belief, however, that concerning the scope of our indicative, illustrative case, the amount of data we have can produce sufficiently informed conclusions.

Reliability is about the consistency of studies from an operationalization perspective. If the results obtained by our technique (i.e. our theoretical framework) are consistent when employed by other researchers, then the study is reliable. However, repeatability is not usually a considered a meaningful criterion when performing case-studies, since case-studies like ours are specific in time and place, and are not meant for repetition. Therefore, reliability in qualitative case-studies is more related to whether the results and conclusions seem to be sensible to other researchers (ibid.), and

thus related to our discussion of internal validity above. Anonymity could have been a challenge for our study, but turned out not to be. Our only interviewee did not mind us disclosing his name. Other considerations that we can mention are that we before the interviews asked for permission to record the session, communicated how we would use the data, and asked for permission to email additional questions after the interview.

5. CASE ANALYSIS

In this chapter, we provide an illustrative case on Norwegian marine technology company Sea-Hawk Navigation AS (Sea-Hawk) as an exemplification and test of our theoretical model. As noted in the introduction to our paper, the study of business models and innovation has perhaps never been more important than it is today, especially for our own country Norway. Our economy, and particularly industries and companies tied to the oil sector, experience significant challenges p.t. due to seemingly persistent, low oil prices. Sea-Hawk is a firm with strong bonds to the oil sector, and is consequently going through difficult times. Moreover, business model innovation is a central topic on the firm's agenda, and the company has for some time already worked consciously on the matter. Thus, in relation to business models and business model innovation, we have been privileged to have the opportunity to investigate a firm we deem particularly relevant to the subject.

With regards to structure and content, the first and second sections of the chapter will be the places where we incorporate our empirical data. In the first section, we provide an introduction to the case industry and case company, and in the second section, we perform a systematic and stepwise, descriptive analysis of Sea-Hawk's business model and its sub-components, categorized in terms of our theoretical model. Section two hence represents a non-prescriptive analysis of Sea-Hawk, and is based on a clear, theoretical fundament, i.e. our conceptual model. We note here that with regards to the categorical placement of Sea-Hawk's business model components in our framework, our model, like models in general, is a simplification of reality. Some of Sea-Hawk's business model features may fit more intuitively into our framework than others, and some features may fit in more than one place. As we simplify the natural complexity of the case into our framework, we need to make considerations and trade-offs based on our own discretion, to the best of our ability and knowledge.

A key message of our study is that a business model must be considered holistically, and that the many components of the business model need to make sense towards each other. The third section of the chapter consequently constitutes a systematic and stepwise, descriptive analysis of Sea-Hawk, where we evaluate perceived soundness and consistency of their business model. As mentioned, the theoretical model we have developed in this text is conceptual, not prescriptive, in nature. In this regard, we note that the prescriptive, more deep analysis in section three thus naturally is more speculative than the descriptive analysis in section two. It is our hope, nevertheless, that section three

can provide interesting, creative, and useful inputs to our discussion. The last section of the chapter, i.e. 5.4., will summarize the chapter.

5.1: Introduction to the case company

Sea-Hawk is a Norwegian marine technology company that sells long-lived, high-end radars, primarily to large, multinational customers. The firm was incorporated in 2000, after which a phase of research and development found place. The firm's commercialization phase was initiated quite recently, that is around 2010. The firm sells a portfolio of so-called detection radars, that differentiate themselves quite strongly from existing, traditional radars in the market. According to Sea-Hawk, the firm's radar technology "vastly outperforms conventional radars" (written communication, 08.10.15).

More specifically, traditional radars exclusively employ a so-called horizontal polarization technology. Horizontal polarization employs a type of radar waves with relatively short frequency, that cannot travel very far and thus have limited range. These conventional radars produce traditional, rough images of a radar's surroundings. Moreover, these radars are mainly capable of, and designed for, the observation and tracking of land and large vessels in the environment, for navigation purposes. Such radars cannot observe small objects (e.g. smaller vessels, ice, oil spill, rescue) or objects moving at high speed. The market for such radars is furthermore characterized by a high degree of competition, and relatively low prices.

Sea-Hawk's detection radars, on the contrary, can in addition to traditional, horizontal polarization that is designed for navigation, make use of so-called vertical polarization, and circular polarization for detection purposes. In Sea-Hawk's offerings, two or three kinds of radio waves are in effect combined, depending on application. Vertical polarization has detection properties capable of identifying details and smaller objects in the environment, and furthermore entails a type of radar waves that can travel large distances. Circular polarization, in turn, improves detection capabilities in rain and snow, and identifies more clutter (i.e. noise), such as waves, that can be used to draw background images of the sea-surface. Sea-Hawk's radars hence combine different radar images into one, holistic image that in effect resembles a near-surface, real-time satellite image. Such radars are thus able to provide users with significantly more information about their surroundings, compared to

traditional radars that only use horizontal polarization. Sea-Hawk is currently the only supplier with such an “all-in-one” radar.

According to Sea-Hawk, the firm’s ultimate competitive advantage, i.e. the firm’s added value and key intellectual property, is the signal processor that combines the individual radar images from horizontal, vertical, and circular polarization into one, composite image. The firm has obtained a Norwegian patent for this technology, but not an international patent. Means that the firm conducts in order to protect their intellectual property are followingly secrecy, a focus on staying ahead of competitors, and protective mechanisms in their sales contracts. Specifically, the latter mechanisms involve a limited resale clause, and a right for Sea-Hawk to perform service on all its radars. This right, to our understanding, is exclusive.

Seismic services for oil and gas is Sea-Hawk’s primary market. Most of Sea-Hawk’s sales have thus far been realized in this market, and the firm has achieved a solid market share here. Other sales have so far been related to the offshore and supply market, and the firm has managed to establish itself in the market for pirate detection along the coasts of Africa. Furthermore, the firm has recently started to get a foothold in markets for oil spill detection, port surveillance and research vessels. Moreover, the firm sees prospect markets in a range of segments, e.g. fishing vessels, rescue, and cruise and ferries.

With regards to Sea-Hawk’s main market of seismic services for oil and gas, a dramatic deterioration has found place from mid-2014 onwards. The price for crude oil has namely fell by more than 50 percent since then (cf. Bloomberg, 2015), and had substantial negative effects on Sea-Hawk’s main customers, and hence also on Sea-Hawk itself. According to our interviewee, Sea-Hawk in the time of writing, struggles severely due to the current, difficult times. Already having had a small organization before the oil price crash, the firm has now reduced staff to only a handful of employees, and slimmed costs and activities significantly. The upsides are that the firm has several service contracts in operation, and that the firm, in its current, lean shape, only needs a few sales a year to keep the organization floating.

We should moreover mention here that Sea-Hawk has already performed a deliberate business model change related to service innovation. According to our interviewee, the motivation behind this change was for Sea-Hawk to “further capitalize on [their] competencies through establishing value-

adding, revenue-generating services” (Personal interview 30.11.15, translated from Norwegian). In Sea-Hawk’s early days, the firm namely focused rather narrowly on selling products, without noteworthy, additional customer contact. While services to our understanding constituted a marginal source of income for the firm before the business model change, services today account for some 20 % of total revenues. Our impression is that this development harmonizes with Sea-Hawk’s intentions for the business model change, and that the firm wishes to see an even larger transition towards services in the future. It is our impression that Sea-Hawk generally has been rather experimental and flexible in relation to their business model, consciously seeking for innovations on how to conduct their business.

5.2. Descriptive analysis of Sea-Hawk’s business model

5.2.1. Value Creation

Under our overarching dimension value creation, we find sub-dimensions Porter’s generic strategies, customer engagement, and attributes. Concerning Porter’s generic strategies, first, it should be uncontroversial to argue that Sea-Hawk fits with a differentiation strategy. A clear, key selling point conveyed by the company is that their products are competitively different and superior. Important in this respect, is Sea-Hawk’s notion that no other firm provides detection systems with composite radar images like Sea-Hawk. From our interviews, it was furthermore stated that principals in the market consider agents with radar systems from Sea-Hawk as more attractive partners, than agents without such systems. To clarify what we mean by principals and agents, we note that both groups may represent customers of Sea-Hawk, and that they also may do business together. In our context, a hypothetical example of a principal could be a platform operated by British Petroleum, while a hypothetical example of an agent could be seismic company Electromagnetic Geoservices. In addition, the above statement that agents with equipment from Sea-Hawk might be considered preferable by principals, it was stated that some of Sea-Hawk’s agent customers in fact have been obliged by their principals to install equipment from Sea-Hawk, as a contract requirement. We interpret these observations as points of differentiation for Sea-Hawk that, hence, comply with a differentiation strategy.

customer engagement, second, refers to a firm's marketing positioning, and comprises the three design elements Standardization, Customization, and scope. Sea-Hawk has a rather wide, nuanced product portfolio, and the classification of Sea-Hawk in terms of customer engagement at first sight does not appear straight-forward. To start, to our understanding, Sea-Hawk provides a base radar as their core offering. The core offering, however, is offered in different versions. Furthermore, Sea-Hawk's radars enable the fusion of separate images into a composite, holistic radar image. In this regard, three separate kinds of radar images exist in total, with each image requiring its own type of antenna. The navigation system from Sea-Hawk needs at least two antennas, but can also include all three, thus providing different combination alternatives. Furthermore, Sea-Hawk also offers sales of partial components from their radars. We interpret the options mentioned in this paragraph as hardware alternatives of Sea-Hawk's base offering.

In addition to the hardware alternatives for the base offering, Sea-Hawk provides a range of optional software add-ons, and a range of optional service add-ons. An example of a software add-on is the possibility to program radars for seismic ships to interpret the length of the ship as including the long line of towed hydrophones behind it. In this way, the navigators of the seismic ships can receive useful collision warnings not only if another ship is on a collision course toward the seismic ship itself, but also if that other ship is on a collision course toward the attached, rear line of hydrophones. An example of a service add-on from Sea-Hawk, is the offer to accompany customer missions with Sea-Hawk personnel, for assistance. As we can see, Sea-Hawk provides a rather wide array of products and services in their sales portfolio. Sea-Hawk's sales portfolio could, possibly, be interpreted to comprise both standardized, and customized offerings. Furthermore, and importantly for our conclusion here, Sea-Hawk appears to be highly flexible in relation to each individual customer, assembling and bundling, at the customer's discretion, a final offering package on a pick-and-choose basis from a broad range of hardware, software, and service options. In summary, we deem scope to be an intuitive, reasonable classification of Sea-Hawk's customer engagement, and will categorize Sea-Hawk's variant of customer engagement as such.

attributes, third, refer to the specific, rather objective features that a customer associates with the purchase and consumption of an offering. Our design elements for this sub-dimension are intrinsic attributes, user-size and lock-in, and complementarities. Starting with intrinsic attributes, which in our model comprise novelty, efficiency, usefulness, functionality, and enjoyment, we would argue

that novelty, usefulness, and functionality are rather suitable, unproblematic descriptions of the company and their offerings given the knowledge we possess p.t. We believe that enjoyment might not directly apply in Sea-Hawk's case, while efficiency is debatable, and could, possibly, be applicable. With regards next to user-size and lock-in, we would argue first that a certain user-size effect is present for Sea-Hawk. As we saw earlier, Sea-Hawk navigation systems are argued to be perceived by principals in the market as a competitive advantage. Thus, given that a principal *ceteris paribus* would prefer an agent with Sea-Hawk equipment over agents without such equipment, agents without Sea-Hawk equipment would experience an incentive to acquire such equipment, if other, competing agents acquired it first. We interpret this as a user-size effect.

With regards in turn to possible lock-in effects, we find ambiguous results. On the one side, our interviewee conveyed that a radar from Sea-Hawk is a relatively large (i.e. significant) investment for most customers. Furthermore, Sea-Hawk operates with a limited resale clause towards its customers as an intellectual property protection mechanism. In isolation, these factors would suggest a presence of a lock-in effect. On the other side, however, the resale clause specifically gives Sea-Hawk the right to buy back equipment in possible resale situations. It is our impression that it is in Sea-Hawk's interest to buy back equipment in such situations, and that Sea-Hawk provides reasonable terms toward customers on this matter. Finally, Sea-Hawk offers a range of pricing options, among others a renting model, to lower the purchase threshold for customers. These latter factors in isolation imply an absence of a lock-in effect. In summary, we see that there are factors pulling in opposite directions with regards to the presence of a possible lock-in effect. Whether deliberate or not from Sea-Hawk's side, we argue that the net effect of these factors is an absence of a lock-in effect for the firm's offerings.

Concerning the last attribute complementarities, we argue that complementarities indeed exist in Sea-Hawk's offerings. The rationale for this statement is that the company, as discussed above, appears highly flexible toward their customers. Sea-Hawk offers customers to buy exactly that which they need. For example, if a customer already has a base radar with certain components and wants to enhance their existing equipment by purchasing add-on parts from Sea-Hawk, Sea-Hawk lets them do that. Furthermore, it was conveyed in our interviews that Sea-Hawk's radars do not include infrared technology. Infrared technologies, in turn, do not include the kinds of radar images provided

by Sea-Hawk's products. Our interviewee stated that there are indeed complementarities in this regard, and that Sea-Hawk is in dialog with infrared technology firms on the matter.

5.2.2. Value Delivery

Under our overarching dimension value delivery, we find sub-dimensions internal value chain, external value chain, and governance. Beginning with the internal value chain, we first categorize Sea-Hawk's selected primary activities, selected support activities, and deselected activities. According to our interviewee, primary activities in Sea-Hawk are sales, service, operations (i.e. quality checks and testing of final products), delivery, and research and product development. We interpret research and product development as core research. Procurement of sub-components was the only activity stated to be a support activity, while deselected (i.e. outsourced) activities were stated to be manufacturing of sub-components, sub-component assembly, sub-component development, initial testing, and sometimes simple services. We interpret initial testing to mean testing of sub-components.

We now move our attention to the external value chain sub-dimension. In our framework, this sub-dimension refers to Porter's five forces, and a firm's placement in its ecosystem value chain. Regarding the latter, Sea-Hawk has chosen to operate midstream. For this particular value chain placement, it is not our impression that a substantial capital investment has been necessary for Sea-Hawk. Sea-Hawk has e.g. not needed factories or heavy machinery for their business. Sea-Hawk's value chain placement does, however, involve head-on competition with several established, large radar producers like Rutter, Terma and Kelvin Hughes.

Continuing with Porter's five forces, we first note that Sea-Hawk's primary market is oil and gas, with a particular focus on seismic services. The company has furthermore established itself along the coasts of Africa in connection with surveillance and pirate detection. Moreover, it is starting to get a foothold in areas related to oil spill detection, port surveillance and research vessels, and considers many markets as prospect targets, e.g. fishing vessels, rescue, and cruise and ferries. In order to perform a focused Porter's five forces analysis however, we here choose to address Sea-Hawk's main market, that is seismic services tied to the oil and gas industry.

The degree of rivalry in the case of Sea-Hawk, first, is in our view nuanced, and somewhat difficult to pinpoint precisely. Although traditional radar suppliers like aforementioned Rutter, Terma and Kelvin Hughes should be considered to be rivals with products that could, in most cases, satisfactorily replace those of Sea-Hawk, our impression is that Sea-Hawk's sophisticated offerings differentiate themselves from their competitors' offerings quite strongly. According to our interviewee, Sea-Hawk is still, for a limited time, operating in a window of opportunity where no competitors can match the premium features of its offerings. To our understanding, however, principals in the market have only on very few occasions explicitly demanded their agents to use equipment from Sea-Hawk, and furthermore, our interviewee specifically stated that competition today is harder than before, due to a decrease in capital expenditures in the industry. Given better market conditions, hence, Sea-Hawk might have experienced less rivalry than under poor market conditions. In today's tough, capital-restrained environment though, Sea-Hawk does not seem to be able to leverage the premium features of its offerings to a noteworthy degree. Our net impression consequently becomes that Sea-Hawk faces rather hard competition from incumbents, and thus we deem the degree of rivalry to be high.

With regards to threat of substitute products or services, second, our interviewee mentioned two alternatives. According to him, substitutes to Sea-Hawk's radars are solid state radars, which to our knowledge are smaller, less powerful radars, and infrared radars. As these substitutes both have a rather limited functionality compared to the offerings of Sea-Hawk's competitors and in particular the offerings of Sea-Hawk itself, the substitutes to our understanding can only fulfil the needs of certain limited, niche-like segments of the market. We would consequently argue that the threat of substitutes is low.

Considering third threat of new entrants, there are several topics to consider. As Sea-Hawk's application for an international patent was rejected, the company has been forced to use a black box approach as protection. As mentioned, Sea-Hawk uses a limited resale clause as an attempt to reduce risk of dissemination. It is our impression, however, that such a clause only provides a limited degree of safety, and furthermore, its efficacy depends on active monitoring and execution from the side of Sea-Hawk, who has limited resources. We argue that while a lack of patents can encourage new entrants, three other factors might discourage said prospective entrants. First, to our knowledge, rather extensive requirements of documentation exist for radars. Second, our impression is that

significant investments in the building of relationships is a necessity in order to be considered in bidding rounds, and third, and perhaps most importantly, the market conditions p.t. are poor, and put pressure on profitability. Based on the aforementioned factors, we deem threat of new entrants in Sea-Hawk's case to be low.

As regards bargaining power of suppliers, fourth, this force is not homogenous in Sea-Hawk's case. Some suppliers provide commodity hardware components where many alternative suppliers exist. In this case, bargaining power is relatively insignificant. The only challenge in this regard is that Sea-Hawk purchases low volumes, resulting in relatively high unit prices. Other suppliers however, possess unique capabilities which Sea-Hawk lacks, but still depends on. Our impression is namely that some suppliers provide non-commodity components that would be challenging to acquire elsewhere, either from rarity or from high switching costs. Naturally, bargaining power for this group of suppliers would be large. In effect, we hence see one group of suppliers with low, and one group of suppliers with high bargaining power. Based on the information we have; we deem net bargaining power of suppliers to be medium in Sea-Hawk's case.

Concerning fifth and last bargaining power of buyers, this force according to our interviewee is substantial. It is our impression that most of Sea-Hawk's customers are large, powerful, multinational companies, and in addition, Sea-Hawk's products in many cases represent relatively large, thus presumably important, investments for most companies. This latter factor is likely to incentivize customers to substantial evaluation of alternatives (cf. Hoyer, MacInnis, and Pieters, 2013, on judgement and decision making based on high effort). We consequently deem bargaining power of buyers to be high in the case of Sea-Hawk.

Continuing with the last sub-dimension in the value delivery sphere, i.e governance, it seems that Sea-Hawk largely operates with market governance, but also includes some relational thinking. We argue that Sea-Hawk mainly uses market governance, as the firm operates with market prices towards its suppliers, and seem to only use market contracts to govern relations between them. The firm furthermore does not seem to involve suppliers or customers to a noteworthy degree in the day to day operations. The firm also does not to any appear to have any traits of hierarchical governance, neither toward partners, nor internally. In this regard, we note e.g. that Sea-Hawk has few employees, that the firm according to our interviewee only has 2-3 hierarchical layers in the

organization, and does not explicitly use management control measures like key performance indicators (KPI's).

Albeit having market governance as main governance mechanism, Sea-Hawk does seem to have slight traces of relational governance as well. Our impression is namely that the firm has had a tendency to act fair towards customers, with the seeming goal of seeking long-term relations and positive signalling effects. For example, our interviewee mentioned a situation in which a customer had a very urgent, critical need of a radar replacement. Although Sea-Hawk could possibly have charged a large premium in this situation, the firm instead provided the new radar at standard market price. Sea-Hawk has furthermore had few conflicts so far towards customers and suppliers, a notion that might show a willingness for accommodation and compromise. We recite that our net conclusion for Sea-Hawk's current governance is that the firm has mainly market governance, and some relational governance.

5.2.3. Value Capture

Under our overarching dimension value capture, we find sub-dimensions customer identification, and monetization. Starting with customer identification, for the case of Sea-Hawk, we argue that an analysis of this sub-dimension would not provide insights or considerations additional to that which will be covered by monetization. This notion is due to the fact that Sea-Hawk uses a one-sided business model, which, in line with our discussion in chapter 3, limits the relevance of analysing customer identification.

monetization, in turn, comprises the three design elements pricing strategies, payment base, and timing. With regards first to pricing strategies, we have identified two kinds for the case of Sea-Hawk. The first pricing strategy that the firm uses is product bundling, where hardware, software and service elements are mixed together into a final offering at the customer's discretion. According to our interviewee, a radar from Sea-Hawk can in theory be purchased without any services. In practice, however, service is always needed to extend the lifetime of a radar to its full potential, and a radar is typically brought to service every other year. It is furthermore possible to buy services (i.e. radar consulting service) separately, without radars. The second pricing strategy that Sea-Hawk makes use of, is negotiable prices, i.e. a type of price discrimination. Two variables have been stated by our interviewee to affect the negotiation of prices. First and most importantly is the expected

quantity of radars to be purchased by the customer in question, second is the possible referral, or signalling value, of the customer.

Continuing with payment base, Sea-Hawk makes use of cost-plus prices based on a simple calculation where a margin is placed on top of the costs. It is our impression that Sea-Hawk has been modest with regards to the terms in the cost-plus approach, employing rather low margins. We indeed perceived our interviewee to express that Sea-Hawk might have been more generous towards customers than the firm would have needed to be when it entered the market, and that it prioritized establishing itself and realizing sales. It is furthermore our understanding that the terms in Sea-Hawk's cost-plus approach, for its main market (i.e. seismic services for oil and gas), have been difficult to change after first having been established. Our interviewee mentioned that Sea-Hawk gradually pictures a transition towards a pricing approach that to a larger extent manages to capture the market's actual willingness to pay. This willingness to pay is, hence, presumably larger than that which Sea-Hawk makes use of today.

In relation to Sea-Hawk's desire to move towards a more favourable pricing approach, our interviewee specifically stated the wanted, new approach to be that which he called "value added pricing". We interpret our interviewee's notion of "value added pricing", from the way he used the term, to still correspond to what we in our framework call a cost-plus approach, though with more favourable terms. We thus do not interpret our interviewee's notion of "value added pricing" to mean the same as our conceptualization of the term, i.e. the management consultancy-approach in which the seller of a service receives a percentage share of the value that her service generates.

It is our impression that Sea-Hawk currently is rather conservative, or to a low degree has a conscious tactic, with regards to the pricing of the various components in its bundled offerings. We note that with regards to Sea-Hawk's desired transition towards a more favourable pricing approach (i.e. that which we interpret as still a cost-plus tactic, but with more beneficial terms), our interviewee expressed, to our perception, that a more sophisticated, favourable pricing of these components was something that they contemplated in the firm. One idea that was briefly touched upon in this regard, was to incentivize customers, through pricing, to incorporate as many components in their final, purchased offering as possible. Furthermore, one, related business model change that Sea-Hawk wanted to do, but to our understanding did not have sufficient funds for, was to offer sales of results from the radars, as an alternative to selling the radars themselves. As far as

we understood, one main motivation behind this desired change was that it would be easier to achieve cost-plus pricing with better terms for this new offering than for established offerings, where changes in pricing terms, as mentioned, were perceived to be more difficult. We moreover add as a final note on the topic of payment base that Sea-Hawk seems to perceive new markets (i.e. markets in which it is not, or only to a small extent is, present) as more open to cost-plus pricing with better terms, than the established market for oil and gas-related seismic services.

With regards to timing, Sea-Hawk has a mixed solution. The firm normally uses a 50-50 approach in which it demands half the payment when an order is placed, and the latter half when the product is shipped to the customer. The best customers, however, are offered an alternative option of 30-day credit. It is our understanding that this payment option entails a full 30-day credit payment in which the complete payment can be conducted up to 30 days after the sale. Sea-Hawk also recently introduced a rental alternative with a post-rental purchase option. This alternative was introduced in order to lower the acquisition threshold for customers.

5.2.4. Section summary

In section 5.2., we have performed a descriptive analysis of Sea-Hawk's business model. Table 5 summarizes our findings in this regard:

Table 5: Sea-Hawk's complete business model

Sea-Hawk's Business Model			
Value Creation	Porter's Generic Strategies	Differentiation	
	Customer Engagement	Scope	
	Attributes	Intrinsic: Novelty, usefulness, functionality (efficiency)	
		Complementarities: Yes	
User-size and Lock-in: Yes, No			
Value Delivery	Internal Value Chain	Primary: Sales, service, operations, delivery, core research	
		Support: Sub-component procurement	
		Deselected: Sub-component manu., asse., dev., test., simple services	
	External Value Chain	Value chain placement: Midstream	
		Porter's Five Forces Main market: seismic services for oil and gas	Rivalry: High
			Threat of substitutes: Low
			Threat of new entrants: Low
			Bargaining power of suppliers: Medium
Bargaining power of buyers: High			
Governance	Market, some relational		
Value Capture	Customer Identification	One-sided business model	
	Monetization	Pricing Strategies: Bundling and price discrimination	
		Payment Base: Cost-plus	
		Timing: 50-50 order-shipment, full 30 day credit, renting	

5.3. Prescriptive analysis of Sea-Hawk's business model

5.3.1. Value Creation

We argued earlier that Sea-Hawk follows a generic strategy of differentiation, and have scope as their customer engagement marketing positioning. Furthermore, with regards to attributes, we argued that novelty, usefulness, functionality and perhaps efficiency are intrinsic attributes of the firm's offerings, that complementarities are present while lock-in is absent, and finally that there at least to a certain extent exists a user-size effect.

Looking first at Sea-Hawk's take on Porter's generic strategies, we find the firm's generic strategy of differentiation to be rather appropriate, justifiable, and sound, taking into account the differentiated characteristics of their offerings. Sea-Hawk's customer engagement, second, corresponds to scope. We note that Sea-Hawk stretches their sales portfolio quite far, by having a relatively extensive assortment of options available for customers. One might initially worry, perhaps, that the firm's large scope may be too wide, and thus lead to overly capital-intensive inventories for a firm with limited resources, and confusion among customers. Our impression, however, is that the scope in Sea-Hawk's case is suitable. To start, according to our interviewee, Sea-Hawk's offerings are relatively large investments for their customers, and we argue that in such capital-intensive instances, as with e.g. cars, flexibility is an advantage. Furthermore, it is our impression that many of the components Sea-Hawk offer, like software add-ons, are relatively inexpensive to provide, and thus lay relatively low claims to capital.

We would argue third that in terms of attributes, Sea-Hawk's offerings comprise a relatively large amount of advantageous features. We argued earlier that while novelty, usefulness, and functionality appear to be natural, intrinsic attributes of Sea-Hawk's offerings, enjoyment does not directly seem to apply, and efficiency is debatable. In the case of radars, we believe that Sea-Hawk scores favourably on those intrinsic attributes that are most relevant. Enjoyment does not appear to be a very relevant attribute in the case of radars, and with regards to efficiency, it is our belief that parity between Sea-Hawk's radars and competitors' radars is what matters. We have no information that would suggest a lack of such a parity. Concerning complementarities, we suggest that Sea-Hawk should keep building on the foundation that it already has, and e.g. continue the initiative for cooperation with infrared technology firms. Concerning lock-in, last, we argued earlier that Sea-Hawk, deliberately or not, has neutralized the presence of such. We believe that this move would be beneficial in today's environment, as Sea-Hawk is a young company at the beginning of building up its reputation and visibility in the market, and furthermore, because its target customers are facing tough market conditions and thus presumably are more risk-averse.

For the particular case of value creation, we find that the connections between the internal sub-dimensions in the domain are interesting and meaningful to analyse in isolation, and hence so too with regards to Sea-Hawk. We find Porter's generic strategies to be a reasonable point of departure on this subject, as this sub-dimension should be argued to be the most general, broad component of

the domain. The starting point in Sea-Hawk's case thus becomes differentiation, specifically. Customer engagement should be argued to be a natural, second decomposition of a firm's take on value creation, which decomposes a firm's choice of Porter's generic strategies into something more tangible and concrete.

There are in our view few connections between differentiation and customer engagement that initially appear conflicting, or preferable. We argue that for a differentiation strategy, any of the three choices under customer engagement could, possibly, work. Even Standardization, which might at first appear somewhat controversial in this regard, should be argued to be connectable to a differentiation strategy, as e.g. Apple's premium-priced, highly standardized iPhone could be stated to do. In fact, in Sea-Hawk's particular case, it is our understanding that the firm's product-related flexibility is contributing to enhancing the value of the offering, and thus fitting well with their differentiation strategy.

attributes, in turn, should be argued to be the most subordinate level of value creation, breaking down a firm's choice of customer engagement into an ultimate, tangible and concrete understanding of how the firm means to create value. There are, also here, in our view few connections that initially appear problematic, or preferable. In line with our discussion of attributes in chapter 3, we recite that more attributes should be considered better than few, and that most of them should be considered unambiguously positive, lock-in is, as stated, the only Attribute which in our view may be problematic, but as we have seen, this feature is in effect not present in Sea-Hawk's offerings. It appears reasonable to argue that a differentiation strategy *ceteris paribus* would require more unambiguously positive attributes relative to a cost leadership strategy. Consequently, the relative large amount of favourable, relevant attributes in the case of Sea-Hawk seem beneficial.

5.3.2. Value Delivery

We argued previously that Sea-Hawk's internal value chain consists of sales, service, operations (i.e. quality checks and testing of final products), delivery, and core research as selected primary activities, and sub-component procurement as their selected support activity. Moreover, Sea-Hawk's deselected activities are manufacturing, assembly, delivery, and testing of sub-components, and sometimes simple services. With regards to the external value chain, we noted that Sea-Hawk has placed itself midstream in its ecosystem value chain, and that its main market is seismic services for

oil and gas. In this market, rivalry was deemed to be high, threat of substitutes to be low, threat of new entrants to be low, bargaining power of suppliers to be medium, and bargaining power of buyers to be high. As regards governance, we argued that Sea-Hawk mainly uses market governance, but also some relational governance.

With regards first to the internal value chain, we observe that Sea-Hawk has chosen to deselect (i.e. outsource) a relatively large amount of activities, and chosen in-house activities that largely seem to constitute core functions of the firm's business. This approach indeed appears to make sense in the case of Sea-Hawk. Sea-Hawk namely appears to focus their currently limited resources on activities that, for the most part, are closely tied to the firm's core, competitive advantage. Among Sea-Hawk's selected primary activities, delivery is the only function we question, as this activity seems less fundamental than the others. As far as we know, delivery does not equal service. Based on the knowledge we have, we thus recommend Sea-Hawk to consider delivery at least as a support activity, and possibly to outsource this function. By doing this, the firm could free additional, needed resources for its core business.

Considering second Sea-Hawk's external value chain, we first note that Porter's five forces for a given market illuminate external conditions that to a large extent should be considered as fixed, and thus are not subject to extensive possibilities for influence from Sea-Hawk's side. For this reason, the relevance of an evaluation of intrinsic soundness of this particular business model component is limited. The markets Sea-Hawk have chosen to operate in, and their selected placement in their ecosystem's value chain are, however, meaningful to evaluate.

With regards to Sea-Hawk's main market, i.e. seismic services for oil and gas, Sea-Hawk has indeed been unlucky. Due to the deterioration of this market as a result of the recent fall in oil prices, Sea-Hawk, like many other players in the market, has been struggling. The Porter's five forces analysis we conducted earlier in relation to this market would thus suggest that, at least under the current market conditions, this market is rather difficult and tough. As concerns Sea-Hawk, however, we find it encouraging that it has managed to establish itself to a certain degree in markets that might be less oil-dependent, e.g. in the business of pirate surveillance and detection. The firm has furthermore already pinpointed several prospect markets that could turn out to be profitable, e.g. fishing vessels, rescue and cruise and ferries. A natural recommendation with regards to choice of markets under

current conditions, would be for Sea-Hawk to hereafter focus strongly on pursuing these alternative, less oil-dependent markets, rather than seismic services for oil and gas.

Regarding Sea-Hawk's placement in their ecosystem's value chain, we find that Sea-Hawk also here currently face rather tough, difficult conditions. By placing itself midstream, Sea-Hawk subjected itself to head-on competition with established, powerful radar producers. As we discussed in relation to rivalry in 5.2.2., Sea-Hawk might, under better market conditions, have managed to differentiate their premium offerings quite strongly from incumbents. As stated, however, the capital-restrained environment of its main market today does not seem to enable Sea-Hawk to leverage the premium features of its offerings to a noteworthy extent, in effect reducing the competitive advantage it might otherwise have had, and in effect increasing competition. We believe, nevertheless, that under normal market conditions, and given that Sea-Hawk still operates without competitors that can fully match their premium offerings in what our interviewee described as a window of opportunity, Sea-Hawk's chosen value chain placement would make sense. Based on the information we have p.t., we therefore, in line with our discussion of market choice above, recommend Sea-Hawk to pursue a continued tactic of midstream value chain placement for less oil-dependent, alternative markets. In these markets, we believe that Sea-Hawk could indeed be able to leverage the premium features of its offerings, and thus perform well as a midstream challenger.

We now proceed to an analysis of governance, which is the third and last sub-dimension in the value delivery domain. In order to conduct a precise analysis, we focus our discussion on the conditions of Sea-Hawk's main market, i.e. seismic services for oil and gas. Hybrid transaction cost economics (hybrid TCE) was stated in chapter 3 to be our chosen analytical tool for governance. For reasons of delimitation, we consciously chose to not delve into this theory in detail in this paper. We will consequently, and for the same reasons, analyse Sea-Hawk's governance in a brief, simplified manner here.

The three parameters that can be said to be commonly considered in hybrid TCE, and which we use here, are asset specificity, ambiguity, and volatility. Asset specificity, first, should be argued to correspond quite strongly to the possibility of having lock-in attributes in one's offerings. As we discussed earlier, different factors lead to the net absence of a lock-in effect in the case of Sea-Hawk. Followingly, we deem asset specificity in Sea-Hawk's case to be low. In such circumstances, *ceteris paribus*, market governance could be argued to work better than hierarchical governance.

Considering second Ambiguity, the degree of this condition seems to be low, as, according to our interviewee, the corporation's uses of contracts has not led to any known conflicts. Volatility third, should be argued to be high, considering the current, difficult conditions in the market. Considering this uncertainty-combination in isolation, relational governance would be appropriate. Based on these stylized arguments, a combination of market and relational governance would, indicatively, seem sensible for the case of Sea-Hawk.

Furthermore, arguments that specifically would discourage the use of hierarchical governance mechanisms for Sea-Hawk, are its slim, small (i.e. non-bureaucratic) organization, its need to keep costs down through the purchase of commodity sub-components in the market, and the notion that hierarchical governance would likely entail an unfortunate slow-down of an organization that seems to need flexibility and speed in order to exploit a limited window of opportunity. One final consideration we deem relevant to the choice between market and hierarchical governance, whose conclusion in isolation appears ambiguous, is with regards to Sea-Hawk's suppliers. As mentioned earlier, Sea-Hawk has two kinds of suppliers; one group that provides commodity components, and one group that provides more specialized, rare components. For commodity components, market governance appears suitable, as these components can be standardized in a cost-efficient manner. For specialized components, however, hierarchical organization seems applicable. The net conclusion for this one factor depends on the relative importance of these two groups of suppliers for Sea-Hawk.

Altogether, taking all factors mentioned here into account, and based on the information we have p.t., we evaluate Sea-Hawk's mix of market governance and relational governance to be suitable today. We emphasize, as a final note, that Sea-Hawk only to a limited extent appears to use relational governance. It is our impression that Sea-Hawk is moving towards increased relational governance in connection with its conscious innovations towards a more service-oriented business model. We believe that an increased degree of relational governance would be favourable, and thus, Sea-Hawk's approach on this manner is a move that we support. For a more detailed discussion of the hybrid TCE rationale we employ in this section, we refer to Poppo & Zenger (2002), and Carson et al. (2006).

Concerning possible connections between internal sub-dimensions in the value delivery domain, we have few pronounced remarks to make. It is our view that, looking at the value delivery sphere in

isolation, its sub-dimensions are relatively independent of each other. One visible exception is governance, which we implicitly commented on above. Governance should be argued to be partly influenced by factors in the external value chain (i.e. volatility, and supplier power), and factors in the internal value chain (i.e. deselection of activities, and thus dependence on suppliers). We above took these factors, and several others, into consideration, in our net endorsement of Sea-Hawk's choices of market and relational governance mechanisms.

5.3.3. Value Capture

We previously argued that Sea-Hawk's customer identification entails a one-sided business model. Under monetization, the company furthermore utilizes bundling and price discrimination as pricing strategies, cost-plus as payment base, and a mixed solution of timing; 50-50 order-shipping, full 30-day credit, and renting options.

Starting with customer identification, we argue, based on our discussion in chapter 3, that a one-sided business model is a sensible choice of customer identification in Sea-Hawk's case, as the firm exclusively employs a B2B sales approach. Continuing with monetization, we start by looking at Sea-Hawk's choice of pricing strategies. We argue that Sea-Hawk's tactics here initially should be sensible. With regards to bundling, first, this approach appears to meet that which most customers seem to demand, i.e. a composite package of various hardware, software and service elements. Price discrimination, second, also seems to make sense. Price discrimination could be a profitable pricing strategy for a firm if it manages to execute it in a practical, sound manner. It is indeed our impression that Sea-Hawk is able to do so, as customers can quite easily be distinguished, and differentiated. The criteria that Sea-Hawk uses, i.e. volume, and customer signalling value, appear to be objective and reasonable. Furthermore, Sea-Hawk's wide scope, and the fact that each offering may be a unique bundle of products and services, make prices for individual customers rather intransparent, which facilitate price discrimination.

As we have seen, Sea-Hawk makes use of two discrete pricing strategies. We note that there exist many other, alternative pricing strategies as well, of which we mentioned some in our discussion of the topic in chapter 3. Still, we believe that Sea-Hawk has made a reasonable selection of pricing strategies for the firm's situation. It is namely our impression that the alternative pricing strategies we mentioned earlier would be rather irrelevant in the case of Sea-Hawk. The aforementioned razor-

razor blade model, for example, usually implies an inexpensive base component (i.e. the razor) that one cannot use without its more expensive complementary parts (i.e. the razor blades). Although this logic could, perhaps, be somewhat transferrable to Sea-Hawk's radars and radar services, we still find the logic to be rather far-fetched in this case. A freemium-model seems irrelevant for Sea-Hawk's case, and two-sided business model dynamics are not applicable, as Sea-Hawk's business model is one-sided.

Continuing with the payment base, Sea-Hawk currently employs a cost-plus approach. The two main payment base options we have considered in this text, are, as we explained in chapter 3, cost-plus and value-added pricing. It is our impression that cost-plus is a more natural payment base in the case of Sea-Hawk than value added pricing, which would seem to be a more relevant for e.g. management consultant firms. Our impression is, however, that the cost-plus terms, i.e. the margins, that Sea-Hawk thus far has operated with, have been too low. In relation to the firm's cost-plus terms, Sea-Hawk, as we discussed in section 5.2.3., appears to have been very modest and accommodating towards customers, at the expense of itself. We do support the rationale of being customer-friendly as a means to get a foothold and establish oneself in a market, but our impression is nevertheless that Sea-Hawk has stretched this approach too far.

We share Sea-Hawk's impression that pricing terms might be difficult to change in its existing main market, due to low willingness to invest, and to the fact that already established terms might be difficult to change. However, our Sea-Hawk interviewee reflected on many ideas for different ways through which the firm can achieve more favourable pricing terms, that we endorse. First, there was the notion that beneficial pricing terms can more likely be obtained in new markets, that is markets other than seismic services for oil and gas. In these markets, which are not to a similar extent struck by low oil prices, for customers have similar needs, and where Sea-Hawk has not already established any existing pricing terms, there seems to be potential to achieve favourable pricing terms by leveraging the premium features of the firm's offerings. Moreover, there indeed seems to be potential for more sophisticated, tactical pricing terms for the various elements in Sea-Hawk's bundled offerings. For example, pricing terms appear to be a useful means for incentivizing customers to include as many add-on elements in their final, purchased offering as possible. Specific ideas for this topic could, possibly, be inspired by American e-commerce giant Amazon, which among others employs discounted shopping baskets, and automated recommendations for products

and additional sales. With regards to payment base, we hence recommend for Sea-Hawk to pursue opportunities in new markets, using a cost-plus approach with favourable terms, and to use pricing terms tactically in relation to its bundled offerings.

Moving our attention last to timing, Sea-Hawk as mentioned currently uses a mixed approach of 50-50 order-shipping, full 30-day credit, and renting with a post-rental purchase option. We find the number of pricing options that Sea-Hawk offers to seem reasonable, as it provides a seemingly favourable amount of flexibility to the firm's customers. The 50-50 alternative, and the renting alternative seem sensible, but the full 30-day credit alternative, however, is a timing option that we question. It seems reasonable to argue that Sea-Hawk should be careful with such a customer-generous timing alternative given the situation, and main market, the company currently is in. Sea-Hawk namely is in a difficult financial situation, and appears to have a need for optimized liquidity. Moreover, offering this alternative to customers would expose Sea-Hawk to credit risk, particularly now, when many of the firm's customers are struggling themselves. In other markets however, and when Sea-Hawk's finances are improved, this timing option could work well, and be used in harmony with Sea-Hawk's pricing strategy of differentiation as a means to distinguish customers.

Considering possible connections between internal sub-dimensions in the value capture domain, we have few pronounced remarks to make, other than our comment above that timing and pricing strategies can be used in harmony for the particular generic strategy of differentiation.

5.3.4. Section summary

In section 5.3., we have performed a prescriptive analysis of Sea-Hawk's business model. Our impression in this regard is to a large degree positive. In our view, Sea-Hawk has to a high extent made reasonable choices in their business model, and its business model largely appears consistent and sound. It should go without saying that the firm has been unlucky in their choice of seismic services for oil and gas as main market, considering the deterioration of this market due to falling oil prices. The deterioration of Sea-Hawk's main market, rather than the business model itself, appears to be the primary reason for the difficulties that the firm currently experiences.

With regards to Sea-Hawk's value creation sphere, first, a differentiation strategy seems to fit well with the company's offerings, and its connection with scope as chosen customer engagement appears

favourable. The firm's relatively wide scope appears to fit well in Sea-Hawk's case. Furthermore, Sea-Hawk already possesses, to a high or sufficient degree, all attributes we deem relevant for their situation, which also seems to harmonize with their differentiation strategy. We moreover believe the absence of lock-in to make sense for Sea-Hawk under today's conditions. Our only recommendation for value creation, as mentioned, is for Sea-Hawk to continue enhancing the complementarities attributes of its offerings through e.g. continuing the dialogue with providers of infrared radar technology.

Considering Sea-Hawk's value delivery domain, second, Sea-Hawk's internal value chain to start seems to reflect largely sound priorities on selection and deselection of activities. Sea-Hawk appears to focus on activities that are fundamental to their business, and to downgrade, or outsource, those that are not. The only activity we question in this regard, is that of delivery, which is now listed as a selected primary activity. We recommend that Sea-Hawk evaluate the downgrading of this activity into at least a Support Activity, possibly a Deselected (i.e. outsourced) Activity, to free needed resources for its core functions.

Sea-Hawk's external value chain, in turn, partly reflect factors over which the firm exerts limited influence. Choice of markets and value chain placement are, however, choices that Sea-Hawk exert influence over. Sea-Hawk has been unlucky with their main market, i.e. seismic services for oil and gas, which has deteriorated due to falling oil prices. Our recommendation in this regard was for Sea-Hawk to hereafter focus strongly on pursuing other promising, less oil-dependent prospect markets instead. Examples of such, verbalized by Sea-Hawk itself, are fishing vessels, rescue, and cruise and ferries. Regarding Sea-Hawk's choice of midstream value chain placement, we argue that the firm initially has the capabilities needed for this position, and that it should continue this tactic when entering new, alternative markets. Concerning finally Sea-Hawk's chosen governance mechanisms, we argue that its mix of mainly market governance and relational governance, is appropriate. We do however believe that the firm could achieve advantageous results by increasing its relational governance further still, and recommend the company to do so.

As regards Sea-Hawk's value capture domain, third and last, as far as customer identification is concerned, we recite that a one-sided business model appears natural for the firm, as the firm employs a B2B sales approach. Concerning monetization, we find with regards to pricing strategies that Sea-Hawk's two approaches of bundling and price discrimination appear reasonable.

Concerning payment base, Sea-Hawk's cost plus approach initially seems appropriate. However, we believe that Sea-Hawk in this regard yet has the potential to realize much higher margins than it currently does. It is moreover our impression that it would be easier for the firm to achieve better terms for its cost plus approach in new markets than in its current main market of seismic services for oil and gas. On this subject, hence, we urge Sea-Hawk to pursue opportunities in new markets, with conscious, favourable terms in the cost plus approach. Furthermore, in relation to payment base, we argue that Sea-Hawk should seek to use pricing terms more tactically in relation to its bundled offerings. The aim in this regard should be to incentivize customers to include as many hardware, software, and service add-ons in their final, purchased offering as possible. Ideas here could be to employ discounted shopping baskets and automated recommendations for additional sales, inspired by e-commerce player Amazon. Finally, as regards timing, we find Sea-Hawk's 50-50 alternative, and renting alternative, to be sensible. We do, however, find Sea-Hawk's full 30-day credit option to be overly risky in today's environment, and recommend the firm to exercise caution in using this particular option.

5.4. Chapter summary, and conclusion

In this chapter, we first performed a descriptive analysis of Sea-Hawk's business model, categorized in terms of the theoretical framework we developed in chapter 3. Subsequently, we performed a descriptive analysis of the firm's business model, where we for each overarching dimension and each sub-dimension evaluated perceived soundness and consistency of Sea-Hawk's business model choices. Our impression from the latter, was that Sea-Hawk to a high extent appears to have made sensible business model considerations, and that its business model largely seem sound and consistent. It appears clear to us that the unfortunate, unprecedented deterioration of Sea-Hawk's main market (i.e. seismic services for oil and gas) due to falling oil prices is the dominant reason for the difficulties that the company experiences today.

Although most of the aspects in Sea-Hawk's business model appears suitable, we found several possible enhancements for the firm that we would like to recite here. First, Sea-Hawk has potential to further strengthen the complementarities attribute of their offerings. We therefore advise Sea-Hawk to continue its dialogue with providers of infrared rad technology, as possibilities for complementarities are thought to reside here. Second, we recommend that Sea-Hawk considers the

downgrading of its delivery activity, which currently serves as one of the primary activities in the firm's internal value chain, into at least a support activity, possibly a deselected (i.e. outsourced) activity. The rationale for this recommendation is that delivery seems to be a non-core function of the firm, and hence that the downgrading of this activity could free needed resources for core functions.

We furthermore recommend that Sea-Hawk from now on should seek to leverage their business model in markets other than seismic services for oil and gas. The firm namely has several promising, less oil-dependent, prospect markets in which its business model is likely to gain more traction. Examples of such, based on Sea-Hawk's own inputs, are fishing vessels, rescue, and cruise and ferries. Moreover, with regards to governance, we endorse Sea-Hawk's approach towards a further increase of relational governance, as this move would optimize the firm's current mix of mainly market governance and relational governance. With regards to Sea-Hawk's choice of cost-plus as payment base, we find that this approach initially makes sense, but through better terms, the firm has the potential to realize much higher margins than they currently do. We believe that the firm has potential to obtain favourable cost-plus terms in markets other than seismic services for oil and gas. We lastly find that Sea-Hawk has potential to capture larger revenues through a more tactical pricing of the many sub-components in their bundled offerings, and that the firm should exercise caution in using their timing alternative of full 30-day credit, as we perceive this option to be risky.

In summary, we believe that Sea-Hawk has a good business model that to a large extent is sound and consistent. We believe that the firm's business model provides a fundament for a distinct position in the market for radars, and that it has capabilities to facilitate generation of profits from Sea-Hawk's innovations. It is our hope that the recommendations we have provided herein can aid the firm in this process, and that the firm manages to endure the difficult situation it currently finds itself in. We wish the company the best of luck in this regard.

6. IMPLICATIONS, LIMITATIONS, DELIMITATIONS, AND FUTURE RESEARCH

In this chapter we investigate implications, limitations, delimitations, and make suggestions for future research, for chapter 3 (the theoretical framework) and 5 (the case analysis) in combination. We first start by looking at theoretical and practical implications from our case analysis. Next, we investigate limitations with our business model framework. Limitations refer to certain problematic aspects of our model that we primarily discovered after putting the model to the test in the case. Afterwards, we discuss delimitations of our model. Contrary to limitations, delimitations represent possible components or considerations that could have been included in the model, but which we consciously chose not to bring with us in our framework, either due to scope, or due to a lower degree of perceived relevance. Finally, we make suggestions for future research based on aspects in limitations and delimitations that we consider to be especially interesting.

6.1. Implications

After we employed the theoretical framework we developed in chapter 3 to analyse the case of Sea-Hawk in chapter 5, we have the impression that the usefulness of our model is relatively high. It is our perception that our model was able to quite extensively describe, categorize and clarify Sea-Hawk's business model, and that it additionally was able to provide the foundation for several recommendations that might be helpful to the firm.

Although our business model framework appears to capture a relatively large amount of relevant business model features, we do, nevertheless, add that there naturally are many business model-related aspects that our particular model would not fully manage to grasp. First of all, we refer to customer identification, which constitutes one-sided vs. two-sided business models. As we discussed earlier (cf. section 3.3.1.), we perceive the placement of this business model component in a framework to be especially tricky. This component could namely initially be said to be rather overarching in nature, extending widely beyond value capture, where we for practical reasons chose to place it. We did not face a problem in this regard in our particular case on Sea-Hawk, as this firm utilizes a one-sided business model. It is namely in the opposite case, i.e. in the situation of two-

sided business models, that the mentioned challenges arise. In effect, hence, possible problems related to our simplification of customer identification did not manifest themselves in the case of Sea-Hawk. However, if the firm had employed a two-sided business model, they would have.

Furthermore, we add a general comment applying for the type of model that we choose to use in this paper. The business model framework, that we have developed in this paper and used as an analytical tool for our investigation of Sea-Hawk, is deliberately conceptual, overarching and general. As a consequence, the model is ultimately rather overarching, and does not delve into the complete, operational workings of the firm. One example on the topic are the peculiar cost and revenue structures that one particular firm might have. In this regard, we will now offer a few comments.

We note that value capture is the domain in our business model that directly targets revenues, and the sub-components in this overarching dimension addresses many sides of the issue. In our discussion of Sea-Hawk, we followingly discussed several interesting aspects of the firm's revenues in sections 5.2.3. and 5.3.3. With regards to revenues in particular, however, we note that the discussion can be further enhanced still, and would like to make a clarification. We argue that in theory, by themselves, neither customer identification, nor monetization, can explain *the amount* of value that a firm can potentially capture from the market. For example, we believe that under payment base, cost-plus and value-added pricing, could, in theory, lead to the same amount of captured value. What matters, we argue, are the underlying terms that the firm in question manages to negotiate. For a cost-plus approach, for example, terms would refer to the specific margins (e.g. 10 percent, or 20 percent on top of costs), that a particular firm might manage to achieve. Subsequently, we believe that these underlying pricing terms, i.e. the essence of a firm's revenues, or whether the firm manages to command a premium price or not, is a question that first needs to take into account operational perspectives that are not covered in the model, and second a holistic question that spans beyond the boundaries of the value capture overarching dimension, and which includes elements from the other overarching dimensions as well. Relevant factors to consider in this regard, in addition to components in value capture, could be e.g. Porter's generic strategies from value creation, and Porter's five forces (e.g. rivalry, and bargaining power of buyers) from value delivery.

Expanding our discussion on this topic further, we note that value delivery is the domain in our business model that most directly targets costs. Consequently, in our discussion of Sea-Hawk, we, somewhat implicitly, discussed certain aspects of the firm's costs in sections 5.2.2. and 5.3.2. In the internal value chain, we addressed costs by discussing how the deselection of non-core activities could be used to free needed resources for Sea-Hawk. Furthermore, governance, which we have analysed using hybrid transaction cost economics, naturally aims to minimize a firm's costs (i.e. transaction costs specifically) through sensible governance mechanisms. Although we argue that the internal value chain, and governance, are the two sub-dimensions of value delivery that most clearly considers the subject, the external value chain offers some indirect suggestions for costs as well. One of the takeaways from this sub-dimension can namely be an understanding of the average costs of a target industry, that one hence would have to compete with, should one choose to enter that industry. We note that costs, as in the case of revenues, in our view should first consider operational aspects that are beyond the scope of this model, and second be considered as a holistic question that includes elements from additional overarching dimensions. Value creation, we believe, would be an especially useful input on this topic, as a firm's choices within Porter's generic strategies, customer engagement, and attributes would all be likely to have implications for a firm's costs.

Altogether, as stated, our impression is that our model was able to grasp a quite wide range of aspects of Sea-Hawk's business model. One key takeaway we extracted from our analysis of the subject of business models in this paper, is that holistic completeness is crucial. Seemingly, the question of whether the many components in the business model make sense towards each other, is a more meaningful question than whether some of its components are more important than others. We perceive our analysis of Sea-Hawk to support this notion. We have at this stage namely not found any pronounced evidence that some of Sea-Hawk's business model components would be more important than others. To us, none of the components we have analysed in the case of Sea-Hawk appear redundant, and they all seem to play an important role in forming that which Sea-Hawk is. It is, however, possible that case studies on other companies based on our model would present contradictory evidence in this regard. It is naturally also possible that there might exist other, important components that should be included in a business model framework, but which our model, based on our particular literature review, has overlooked. In the following sections, we present some reflections on the limitations and delimitations of our model, and possible areas of future research.

6.2. Limitations

In this section we address limitations from assumptions and simplifications in our model, and placement issues. The limitations of general interpretations and assumptions that we make in our framework are especially prominent in our attributes dimension, our monetization dimension, and in our customer identification dimension. We would now like to elaborate some more on these issues.

The attributes dimension is complicated from the very origin. This dimension is namely to a large extent based on Zott & Amit's (2010) design themes, which are originally general for the whole business model, rather than as specific, more narrow customization options for a firm's products and services. In addition, attributes have limitations in their very nature, as it is benefits, not attributes, that customers ultimately value. As we discussed in chapter 3, benefits are customers' subjective evaluation of a firm and its offerings, but are difficult to affect in any way by the firm itself. This limits the value of including attributes as a dimension, but attributes as a tool nevertheless might be the closest, most useful approximation to benefits that a firm can obtain.

Returning to the discussion of our green design elements, we defined these as decomposable, mutually compatible, or a combination of the two. We also mentioned that our preference to limit our framework to four tiers for practical reasons, resulted in some of these elements not being fully decomposed. Ignoring practicality for a moment, what we did not mention was that while we believe that some green design elements are useful to decompose further, some are more problematic. To illustrate with our monetization dimension, while timing and payment base are useful to decompose further, pricing strategies are, we believe, perhaps not. While timing and payment base have a limited amount of clear, more general configurations, our impression is that this is not the case for pricing strategies. There are namely a vast number of possible pricing strategies, of which some probably would only have case-specific relevance. The Freemium model is one, such example. However, the advantage of using one colloquial term for all pricing strategies, i.e. putting all possible, but not necessarily applicable, pricing strategies together as one design element, is that in this way, the design element *itself* is always relevant. As we will explain in the following paragraphs, this is not the case for the customer identification.

With regards to the customer identification dimension, a major issue with this dimension and thus our framework, is that this dimension is interesting only in the case of a two-sided business model. We refer to our previous discussion in section 3.3.1. for a deeper discussion on the topic. As we have discussed earlier, while placement issues have been prominent in the entirety of our business model, it has been especially problematic for customer identification. We earlier suggested to create fifth tier, especially for this dimension, but decided against it, because it would make the framework too cumbersome to use.

A different solution we considered on this topic, related to the discussion of the use of colloquial terms in the paragraph above, was to eliminate customer identification as a sub-dimension in our framework, and to rather include two-sided business model dynamics exclusively as an additional option within the pricing strategies design element under monetization. In this way, one could avoid the aforementioned case-specificity issue, and thus enable for enhanced generalizability of the model. The first problem with this method would be that the customer identification dimension focuses on the division of user and payer, rather than exclusively on the pricing strategies that the firm utilizes. Therefore, important nuances would disappear. The second problem is related to the usefulness of the customer identification concept itself. We argued earlier that, ignoring practical considerations, a five tier business model framework, with customer identification as an overarching, new layer of the model, would be ideal. Our current solution, i.e. having customer identification as one sub-dimension under value capture, is already inferior in this regard. By placing the concept merely as a part of the pricing strategies design element, this problem would be even more pronounced.

6.3. Delimitations

We have made several delimitations due to scope in this paper. Some of the delimitations we chose were due to questionable relevance, some due to time constraints, and others still due to practical reasons. Starting with the topic of dynamic capabilities, we believe that such competencies are necessary for a firm to be able to continuously change their business model. However, we do not believe that dynamic capabilities fits into our framework as an intrinsic business component. As mentioned in the introduction, business models and business model innovation are in this paper considered to be coinciding. This consideration implicitly views dynamic capabilities as given, i.e.

as a prerequisite. This assumption is hence the means through which we deal with dynamic capabilities in our text.

Next, with regards to intellectual property, we only commented briefly on this topic, as we evaluated the subject to be too large for our scope. One could argue, however, that our model provides a point of departure for a discussion of intellectual property, through a combination of threats of new entrants in Porter's five forces, and governance. Another field we did not directly cover is choice of organizational structure and design. This topic is, however, indirectly a part of governance to some extent. Hierarchical governance implies a heavier, more bureaucratic, controlled organization, while relational governance implies a flatter, more organic organization. A more detailed discussion on the subject requires a deeper discussion organizational strategy, a field we chose to not cover for reasons of delimitation.

With regards to governance, we debated if we should analyse the concept using contract theory rather than hybrid transaction cost economics. We chose against this for three main reasons. First, all four main contributions we analysed in our literature review ultimately used some version of transaction cost economics in their discussion of governance. Second, contract theory is a large, complex family of theories that we deemed to be too broad for our scope. Third and finally, since most of the literature on contract theory (cf. Bolton and Dewatripont, 2005) focuses on the economic aspect, we deemed contract theory to be somewhat of a mismatch with the rather strategic perspective we have employed in this paper.

The literature on Blue Ocean Strategy is another topic that we could possibly have delved into in relation to our framework. For example, possible, appropriate connections could have been to tie the concept to rivalry in Porter's five forces, or as a third design element in Porter's generic strategies. However, this is a large field in itself, and involved too many considerations for this paper. We also debated whether to include concepts from the field of marketing as part of value creation or value capture, but decided to exclude this area for the same, scope-related reasons. The discussion of the relationship between business models and strategy itself, was furthermore a topic we chose not to investigate. This discussion is highly relevant for our framework due to our incorporation of theories from the field of strategy directly into our business model framework. However, this discussion is another topic that by itself constitutes an entire field of research, and thus far too broad and

encompassing for our scope. On the topic of strategy vs. business models, we can add that our initial, indicative approach to this discussion is that the two appear to be closely intertwined as two, natural sides of a common, underlying essence. The business model, as we have seen, is a composite concept that encompasses theories and elements from many different academic fields. It is our impression that the difference between business models and strategy is not necessarily very large, and that strategy is one of the many topics that the business model comprises.

Finally, we would like to offer some thoughts on the possible, general prescriptive capabilities of our model. We first emphasize that we decided against attempting to research all the possible, general connections that might exist between the three overarching value dimensions in our framework, as this would be a task too profound for our scope, and would most likely require more than one case analysis. On that note, we question whether our model can, in fact, be further developed into a completely prescriptive model. Actually, we expect only *some* of our dimensions and design elements to possibly have prescriptive qualities. We base this argument on our inclusion of several theories from the field of strategy that are case-specific and overarching in nature, and hence are not meant for general prescriptions. The purpose of our framework was to explore the contents of the business model, and hence provide an index of variables that can be utilized for specific case analyses. Our model therefore does not automatically suit a prescriptive purpose. We do however, find this issue to be both important and interesting.

6.4. Future Research

There are many possible areas of future research that arise after having conducted our study, among others all aforementioned, chosen delimitations. Here, we will mention four chosen areas that we consider to be particularly interesting in this regard. First, as we discussed in section 6.1., we at this stage did not find any pronounced evidence that some of the components in our framework are more important than others. To us, none of the components we analysed in our particular case of Sea-Hawk appeared redundant, and they all seemed to play an important role in forming the firm's business model. As mentioned, however, it is possible that case studies on other companies based on our model would identify contradictory findings on this topic. Naturally, it is also possible that there might exist other, significant components that should be included in a business model framework,

but which our model, based on our, peculiar, literature review, has missed. Thus, one natural, area of future research would be to test the solidity of our model by employing it on additional cases.

Second, additional research could be conducted with regards to investigating connectivity between the overarching dimensions in our framework, and thus possible, prescriptive features of our model. Third, related to our mentioned issues with customer identification, we welcome attempts to incorporate customer identification as a fifth, overarching tier in the business model framework. If practical disadvantages of this solution could be overcome in a sufficient manner, we believe that the fifth layer solution would be ideal. Fourth and finally, our final suggestion would be to investigate and evaluate our framework in light of the current debate on strategy vs. business models. Questions we deem especially interesting in this regard, is whether our suggested framework, and thus our perspective on the relationship between strategy and business models, could contribute to the discussion, and what critics from the field would have to say about the approach that we have taken in this paper.

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APPENDICES

Appendix 1. Interview guide

Kundeengasjement

Dere sier at et produkt ikke kan selges alene, men må inkludere tjenester. Men produktet selges og prises for seg, og så kommer et servicetillegg. Men tillegget er obligatorisk?

Så det er en minimum-pakke?

Er en viss mengde service inkludert på forhånd som en «forsikring?»

Har du noen eksempler på konkrete pakker?

Kan kunden selv velge fritt hvilket produkt og hvilke tjenester han vil ha, i en pakke?

Produkt / Service-attributter

Hvis kunden kjøper radar av dere, blir han bundet på noen måte? Ca. hva koster typisk radarene?

Hva er de viktigste salgsdriverne?

Intern Verdikjede

Angående de komplementære effektene til infrarød teknologi, er dette noe Sea-Hawk selv har tenkt til å tilby?

Ekstern Verdikjede

Har Sea-Hawk integrasjon med noen andre i verdikjeden enten som integrerende eller integrert part?

Rivalisering

Hvordan har Kanadiske Rutter respondert på Sea-Hawk?

Er det andre aktører som har markert seg som hovedkonkurrenter nylig?

Kan du fortelle mer om disse aktørene?

Kjøper

Tidligere skrev du at kunden har mye forhandlingsmakt, endres maktforholdet ved salg?

Er seismikkmarkedet deres største kundesegment?

Vi leste det var mye arbeid som måtte til for å få nye kunder. Hva skal til for å få nye kunder? Hva gjør dere for å beholde eksisterende kunder?

Hvor stor prosentandel av kundene forblir lojale kunder hos Sea-Hawk etter at de er anskaffet?

Leverandør

Angående leverandøren som skrur sammen komponentene for dere, er denne leverandøren integrert i noen grad i selskapet?

Organisasjonsstyring

Hvor mange hierarkiske nivåer har dere?

Bruker dere Målstyring internt? KPIs?

Du sa at dere har en kjøpsrett på radarene, hvordan prises en radar ved gjenkjøp? Hvilke faktorer inngår? Hva er rimelig å forvente er gjenkjøpspris sammenlignet med salgspris?

Angående agentstrukturen ved salg til utlandet, er agentene fast ansatte i Sea-Hawk eller frilansere?

Er de autonome?

Hva er Ansvarsområdet deres?

Dere har store multinasjonale selskaper som kunder, Er produktene deres likevel en stor kostnad for kunden?

Vi så at relasjoner var viktige for salg til utlandet, hva med for innenlands? Er det mulig å oppnå særpriser hos leverandører for eksempel?

Hva gjøres hvis kunden ikke vil ha radaren lenger, eller vil bytte?

Inntjening

Prisingsstrategier

Ca. hvor stor del av inntektene får dere av service i forhold til salg av radar i gjennomsnitt?

Hva er andelen salg til utlandet?

Er lisensiering aktuelt?

Er priser åpne for forhandling?

Timing

Hva slags muligheter tilbyr dere kunder når det gjelder timing? Har alle kunder like muligheter?

Prissettingssystem

Har dere klart å oppnå noe value-added pricing enda? Hva trengs for å få til overgangen?

I hvor stor grad henter dere ut en premiumpris for deres produkter?

Hva bestemmer om en kunde får cost-plus eller value-added?

Forretningsmodellendringen

Hvor langt kom dere med forretningsmodellendringen? Altså, hvordan ser det ut i dag?

Har det skjedd noen vesentlige endringer i siden vi spurte deg sist?

Hvordan vil det å selge resultater fungere?