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Master of Business Administration

Master Thesis

Innovating the Business Model DNA
Value co-creation as a tool for value proposition innovation:
A process analysis

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Abstract

Innovating the business model according to changing customer needs and to subsequently gain and sustain a competitive advantage is essential for enterprises' contestability. Considering customers as one of the enterprises' most important sources for competitive advantage, the influence of the raising concept of value co-creation on the business model value proposition - the centerpiece of the business model - becomes evident in the current literature. This study investigated the process of how organizations learn from their value co-creation activities and utilize the gathered information for the innovation process of their business model value proposition over time. The qualitative research applied an abductive approach using Fereday & Muir-Cochrane's (2006) hybrid template method. Drawing on business model innovation, value co-creation, and organizational learning literature, the paper provides a deductively developed process framework, which was inductively supplemented with 31 empirical documents, such as semi-structured interviews, public and archival data. In order to investigate the pattern emergence over time, a retrospective longitudinal process replication analysis in the context of knowledge intensive business services was conducted. The paper contributes to the business model innovation and value co-creation literature combining the two streams into a new field of research and enhances the process theory of business model innovation. The investigations revealed that business model value proposition innovation comprises two learning processes: operational learning and business development learning. The findings conclude that the quality and the focus of the connection between operational and business development learning in combination with the external company situation determines the nature and the outcomes of the innovation process. Finally, the findings show that knowledge from sources such as the value co-creation activities, the project specific customer offer and the organizational context serves as valuable source for the innovation process.

1. Introduction

Innovating the business model according to changing customer needs (Clauß, Laudien & Daxböck, 2014; Pynnönen, Hallikas & Ritala, 2012) and to subsequently gain and sustain a competitive advantage (Prahalad & Ramaswamy, 2004) is essential for enterprises' contestability. Considering customers as one of the enterprises' most important sources for competitive advantage (Slater & Narver, 1994; Woodruff, 1997), the influence of the raising concept of value co-creation (Aarikka-Steenroos & Jaakkola, 2012; Grönroos, 2008, 2011; Payne, Storbacka & Frow, 2008; Pilgrimiene, Dovaliene & Virvilaite, 2015; Vargo & Lusch, 2004) on business model innovation becomes evident (Zolnowski & Böhm, 2013; Clauß et al., 2014).

Moreover, recent literature emphasizes the significant influence of value co-creation on value proposition innovation (Ordanini & Pasini, 2008; Ballantyne, Frow, Varey & Payne, 2010; Kohtamäki & Rajala, 2016) as centerpiece of the business model. Changing customer needs challenge enterprises to continuously 'revalue prior intellectual capital and to identify, acquire, assimilate and exploit new knowledge to create new offerings – an organizational capability referred to as absorptive capacity' (Kranz, Hanelt & Kolbe, 2016, p. 478). The connection between an organization's ability to learn from its value co-creation process and the business model innovation with respect to the value proposition is therefore prominent.

In a supplementing manner, current research on business model innovation underlines the positive influence of value co-creation (Pynnönen et al., 2012; Zolnowski & Böhm, 2013). Empirical studies revealed customers' capability to create more relevant and novel business models than enterprises' experts, but stressed the need for company-customer collaboration regarding the development of elaborate business models (Ebel, Breitschneider & Leimeister, 2016). Moreover, the influence of absorptive capacity on business model innovation (Kranz et al., 2016) has been studied. But the tentative analysis demands for further investigations of influencing factors, which include the knowledge gap regarding value co-creation aspects. Likewise, the value co-creation literature analyzes learning aspects, but seeks for further investigations related to the management of value conflicts (Aarikka-Steenroos & Jaakkola, 2012).

In summary, the current literature signalizes the relationship between value co-creation and the value proposition of the business model and the organizational necessity to learn from its customers in order to remain competitive. However, to date's body of academic knowledge lacks research, which connects the innovation of the business model value proposition with learning from value co-creation processes. *This research subsequently focusses on the process of how enterprises learn from their value co-creation activities and utilize the gathered information for the innovation process of their business model value proposition over time.*

The study applies the conceptual thinking of the business model innovation and value co-creation domain, which is closely connected to the service-dominant logic (Ballantyne & Varey, 2006; Grönroos, 2008, 2011; Payne et al., 2008; Thomke & van Hippel, 2010). It is set into the context of small- and medium enterprises (SMEs) operating in knowledge intensive business services, which combines value co-creation in a service-dominant field (Aarikka-Steenroos & Jaakkola, 2012) and the necessity for effective knowledge and learning management.

In order to investigate enterprise's learning progression, the research follows an abductive approach and combines the current scientific knowledge with empirical data. For the purpose of the conceptualization of the enterprises' business model value proposition innovation process the study employs a hybrid template approach (Fereday & Muir-Cochrane, 2006). It makes use of a retrospective longitudinal process analysis (Langeley, Smallman, Tsoukas & van de Ven, 2013; Eisenhardt, 1989) to systematically develop a grounded process pattern.

The paper contributes to the business model innovation and value co-creation literature and combines the two streams into a new field of research through the proposal of a framework. Furthermore, it enhances the process theory of business model innovation. Considering practical implications, the results elucidate the innovation process and the

information flow within the organization, which provides valuable managerial insight. Besides, the research emphasizes the importance of managerial attention to value co-creation processes. The information gathered from value co-creation activities contains relevant customer information, which supports business model value proposition innovation and provides potential competitive advantage.

The paper is organized as follows. The next chapter comprises the literature review and gives an outline of the tentative framework for organizational learning from value co-creation activities. This theoretical discussion is followed by the presentation of the methods and steps used to conduct the research. The next chapter exposes the results and examines the involvement of the learning process from value co-creation activities per identified evaluation period. Finally, the paper closes with the discussion of the results and the presentation of the conclusion.

2. Literature review and tentative framework

This chapter comprises the literature review and the development of the theoretical framework. It starts with section 2.1 *The concept of value co-creation in the KIBS context*, which clarifies the origin of value co-creation and the context of the study. The next section 2.2 *The interlink of value co-creation and value proposition innovation* defines the core concepts and explains their connections. The chapter closes with the development of the tentative framework in section 2.3 *Organizational learning from value co-creation processes*.

2.1 The concept of value co-creation in the KIBS context

The shift from the goods-dominant logic to the service-dominant logic (SDL) forced companies to be customer oriented in order to sustain a competitive advantage (Vargo & Lusch, 2004; Lusch, Vargo & O'Brian, 2007). This development towards an SDL driven business understanding led to a changed comprehension of customer and enterprise interaction (Lusch et al., 2007; Prahalad & Ramasamy, 2004). The earlier perception of a consumer as a 'buyer' of value in the form of a product/ service created inside the walls of the firm, changed towards a customer integration concept (Lusch et al., 2007; Prahalad & Ramasamy, 2004): The customer was integrated into the creation of value and became subsequently a value co-creator (Lusch et al., 2007; Prahalad & Ramasamy, 2004).

As customer needs change over time, the offerings companies provide to their customers also need to change, which results in an organizational necessity for continuous business model innovation (Brown, 2010; Plé, Lecocq & Angot, 2010; Pynnönen et al., 2012). Therefore, organizations have to learn from their value co-creation process to sustain a competitive advantage.

Through the shift in the logics the definition of value itself also adapted to the service context. Referring to the business model innovation and value co-creation literature, value has been specified as the benefits the customer needs (Osterwalder, Pigneur, Bernada & Smith, 2014) or benefits subtracted from the sacrifices the customer has to make (Kohtamäki & Rajala, 2016). For the purpose of this study value is consequently defined as benefits the customers need, taking various forms of services as for example advice or technological support.

Moreover, this study is placed in the context of KIBS firms. These firms are defined as companies processing knowledge by means of collection, creation or dissemination to a solution which is in line with the customer demands (Bettencourt, Ostrom, Brown & Roundtree, 2002; Aarikka-Steenroos & Jaakkola, 2012). The characteristics of KIBS are outlined through three main commonalities, which are firstly, the knowledge intensity of the service provided, secondly, the problem solving function and thirdly, the intense customer integration or interaction with the provided service (Muller & Zenker, 2001). At this, the essence of KIBS is emphasized as customized solution forming by making use of the supplier's knowledge (Löwendahl, 2005).

Concerning the conceptualization of value co-creation many authors specified the concept consistently, which comprised the elements of 'joint value creation' or 'joint problem solving' (Prahalad & Ramasamy, 2004; Lusch et al., 2007; Aarikka-Steenroos & Jaakkola, 2012) and 'full customer integration into the process' (Prahalad & Ramasamy, 2004; Kristensson, Matthing & Johansson, 2007; Aarikka-Steenroos & Jaakkola, 2012; Piligriemiene et al., 2015). Regarding the context of Knowledge Intensive Business Services (KIBS), Aarikka-Steenroos and Jaakkola (2012) added the involvement of supplier and customer resources. For the purpose of this research the concept of value co-creation is therefore defined as "joint problem solving, which involves supplier and customer resources integrated in a collaborative interaction process." (Aarikka-Steenroos & Jaakkola, 2012, p. 17).

The tentative framework of this study makes use of Aarikka-Steenroos and Jaakkola's (2012) conceptualization of value co-creation in KIBS. According to their findings the

process of value co-creation occurs during and after the problem solving process and is characterized through five collaborative activities. These activities do not necessarily follow a linear path and can be executed in parallel or iteratively. Aarikka-Steenroos and Jaakkola (2012) classified these five activities as follows: Within activity 1), diagnosing needs, the needs and aims of the process are identified, while in 2), designing and producing the solution, the parties define the options to reach the aims by means of negotiation. During activity 3), organizing the process and resources, the supplier structures the value co-creation process and determines and allocates the necessary resources such as employees or budget. In activity 4), managing value conflicts, possible alignment issues regarding the aims are moderated, while in activity 5), implementing the solution, the found solution is implemented and converted to the main output of the value co-creation process: value-in-use (Lapierre, 1997; Aarikka-Steenroos & Jaakkola, 2012).

2.2 The interlink of value co-creation and value proposition innovation

The positive influence of this value co-creation process on the business model and a subsequent business model innovation has been addressed by the recent literature (Zolnowski & Böhmman, 2013; Clauß et al., 2014). Especially the aspect of customer-integration into the business model innovation process has been investigated (Plé, Lecocq & Angot, 2010; Pynnönen et al., 2012; Ebel et al., 2016). The studies concluded that customer input frequently influences the value proposition, which is the enterprises' offer to their customers (Plé, et al., 2010; Ballantyne et al., 2010). Similarly, Clauß et al. (2014) and Ballantyne et al. (2010) emphasized that the value proposition is closely linked to the communication between the parties in the value co-creation process. Kranz et al. (2016) additionally underlined that changing customer needs challenge organizations to create new offerings.

Unfortunately, the concept of the value proposition has not been unified and differs based on the administered context. Firstly, literature recognizes the differentiation between 'customer' value propositions, which refer to offers that are made to (end-) customers (for example Anderson, Narus & Van Rossum, 2006), and stakeholder propositions applying to other parties in the network of the organizations (for example Ballantyne et al., 2010). This research focuses on customer value propositions.

Secondly, concerning the context of value co-creation, the concept of the value propositions has been frequently used to describe specific, project based value (for example Ballantyne & Varey, 2006; Aarikka-Steenroos & Jaakkola, 2012; Kohtamaki & Rajala, 2016) in place of the 'general' value proposition as part of the business model (e.g. Anderson et al., 2006), which is expected to be more stable than the project based propositions. The sometimes missing or somewhat vague definition of the value proposition causes an ambiguity error (Ballantyne et al., 2010; Kohtamaki & Rajala, 2016) and creates the demand for a thorough delimitation. This research therefore distinguishes between the more general business model value proposition and the project specific value proposition, which can differ per customer and project.

Thirdly, the definition of the term value proposition changed with the shift from the goods-dominant to the service-dominant logic. With regard to the goods-dominant logic (GDL) a value proposition was considered to be the marketing offer or value promise a supplier offers to customers with the intent that buyers accept the proposed offer (Anderson, et al., 2006; Ballantyne et al., 2010). This implies that the offer was solely determined and formulated by the supplier. In contrast, the shift to the SDL caused an emphasis on reciprocal communication between customers and suppliers in order to develop a value proposition to the satisfaction of both parties, albeit the essentials of the concept remain grounded in the goods-dominant logic (Ballantyne et al., 2010).

The identified strategic orientation of offers to the customer as determined by Treacy and Wiersema (1995) or Day (2006) therefore stayed the same. The strategic orientation of offers relate to the aspects of best price offerings and least customer inconveniences as 'operational

excellence’ or ‘price/performance value’, deep understanding and fulfilment of the customer need as ‘customer intimacy’ or ‘relational value’, and innovation and unique value products as ‘product leadership’ or ‘performance value’. These form the three essential strategic orientations of the business model value proposition and occur standing alone or in combination with each other (see Figure 1: Basic Conceptualisation of Value Proposition Innovation).

Besides, the conceptualization of value propositions in the SDL underlines that the business model value proposition serves as an input for the collaborative development of the specific value proposition (Flint & Mentzer, 2006). This finding supports the assumption that the specific value proposition might serve as an input for business model value proposition innovation. Kohtamaki & Rajala (2016) furthermore defined the specific value proposition as sub-process of value co-creation, which interlinks the elements of value proposition innovation and value co-creation processes.

This view on the concept of the value proposition is in line with the recent value proposition conceptualisation of the business model literature. Osterwalder et al. (2014) define the value proposition as an offer “based on a bundle of products and services that create value for a customer segment.” (p. 18). They describe the value proposition as general offer to the customer, which operates best if it is aligned with the customer needs. However, the value proposition might change project-wise. By providing the value proposition canvas as a tool for value proposition innovation Osterwalder et al. (2014) stress the importance to find a fit between the customer needs and the offered value, which is line with the reciprocal conceptualisation of the SDL. Using their tool the company starts with a value map as value proposition, in which the products/services are described together with ‘gain creators’ offering ways to reach outcomes customers want to achieve and ‘pain relievers’ offering possibilities to alleviate bad results, risks and obstacles related to customers aims (Osterwalder et al., 2014). This value map requires fitting with the customer profile, which describes the customer jobs, ‘gains’ and ‘pains’. Finally, the findings in the business model literature resonate with the aforementioned delimitations of the value proposition: The business model value proposition relates to Osterwalder et al.’s (2014) value map, while the specific value proposition resonates with their customer profile (see Figure 1).

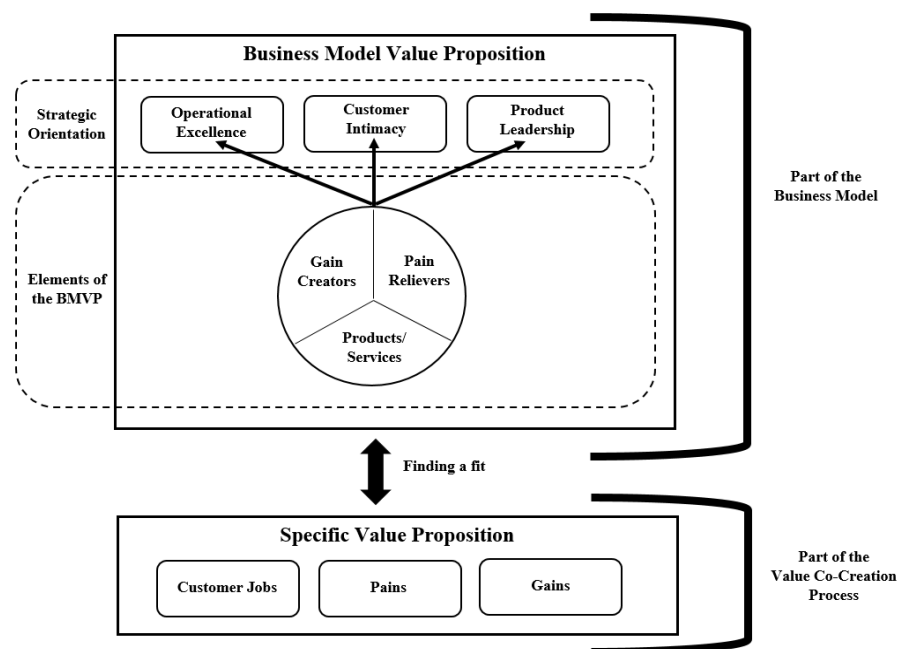


Figure 1. Basic Conceptualisation of Value Proposition Innovation

In summary, this research focuses on customer value propositions and distinguishes between the business model value proposition and the specific value proposition. It conceptualizes the business model value proposition as overall offer to the customer, which consists of a description of the offered product/service and ways to create customer gains and to relieve customer pains. The main strategic orientations this value proposition might address are operational excellence, customer intimacy and product leadership. The business model value proposition is defined as a relatively stable construct that is continuously refined through the reciprocal alignment with the specific value proposition (Table 1: Definition of the key terms).

On the other hand, the specific value proposition is defined as sub-process of the value co-creation process and defines the specific customer needs based on customer jobs, gains and pains. This value proposition changes per customer and project and therefore provides information about changing customer needs.

2.3 Organizational learning from value co-creation processes

However and despite the fact that value proposition innovation is affected by value co-creation, little is known about how organizations learn from their value co-creation processes. The literature concerning the fields of business model innovation and value co-creation frequently employs the concept of absorptive capacity (ACAP) (Plé et al., 2010; Clauß et al., 2014; Hakanen, 2014; Komulainen, 2014; Kranz et al., 2016; Stephens & Boucher, 2016). For instance, literature in the context of the service-dominant logic and customer integrated business models operationalizes the construct of learning by means of absorptive capacity (Plé et al., 2010; Clauß et al., 2014). This is in line with literature dealing with the general business model (for example Kranz et al., 2016) in various contexts as KIBS, key-account-management or business-to-business research (Hakanen, 2014; Komulainen, 2014; Stephens & Boucher, 2016). Moreover, Battistella, Toni, De Zan & Pessot (2017) identified ACAP as one of the key capabilities for the innovation of the value offer.

The construct comprises a firm's ability to acquire, assimilate (analyze and process), transform (convert into applicable knowledge) and exploit critical knowledge to gain competitive advantage (Zahra & George, 2002). Because of the use of ACAP in the value co-creation and business model literature and the ability to build logical connections to the tentative framework elements of this study, this research applies the conceptualization of ACAP to operationalize organizational learning:

The contemplation of the basic conceptualization of the value proposition innovation (see Figure 1) suggests two learning processes (see Figure 2: Tentative framework of Organizational Learning in Value Proposition Innovation by means of Value Co-Creation) which are going to be referred as to 'operational learning' (Learning process 1) and 'business development learning' (Learning process 2). Starting with the operational learning, the value co-creation process taking place within the scope of the daily business is an iterative process, which includes the development of a specific value proposition as described in section 2.2. In order to develop this specific offer (Flint & Mentzer, 2006) comprising customer jobs, pains and gains (Osterwalder et al., 2014), the company has to reciprocally communicate with its client (Ballantyne et al., 2010; Aarikka-Steenroos & Jaakkola, 2012) and subsequently *learn* what the customer needs in order to come to a bilaterally confirmed agreement. This, for instance, might be the learning with respect to specific customer jobs, such as a discovery that the customer has to develop a product component in order to reach a specific gain as a higher level of end-consumer satisfaction.

The operational learning process is, as suggested in other business model learning studies, logically connectable to the previously defined elements of ACAP and logically coherent with the value co-creation activities. In order to form a specific value proposition the relevant customer information regarding customer jobs, pains and gains has to be acquired. This concerns most likely the activities 'Diagnosing needs', 'Designing and producing the solution', and 'Managing value conflicts' in iteration cycles. These stages include the aspect

of new information or the necessity to detect issues (Aarikka-Steenroos & Jaakkola, 2012). The discovered information has subsequently to be analyzed and processed, which might concern the activities 'Diagnosing needs' and 'Managing value conflicts' as these tasks refer to the initial start and the further refinement of the value co-creation project (Aarikka-Steenroos & Jaakkola, 2012). The necessary transformation of this knowledge, thus the conversion into applicable knowledge, is expected to be associated with the same stages as it seems to be referring to the same managerial actions. Lastly, the exploitation of the knowledge is expected to lead to the formation or re-alignment of the specific value proposition, which initially takes place while 'Diagnosing needs', 'Designing and producing the solution' or in an iterative manner during the 'Management of value conflicts'. In summary, the study anticipates that the value co-creation process leads to the formation of a specific value proposition through operational learning, which employs the ACAP mechanism.

However, operational learning ends within specific value co-creation projects. In order to have an impact on the business model value proposition another transfer process is expected to be existent: business development learning. Based upon the discussed business model innovation literature, and the logical coherence of ACAP with the knowledge transfer from the value co-creation processes to the innovation process of the business model value proposition, this research presumes that ACAP is utilized for business development learning as well.

The study defines the business development learning process as a process that makes use of information acquired from the value co-creation processes in order to align the elements of the business model value proposition (products and services, gain creators and pain relievers) with the perceived reality of the daily operations. The supplier-customer collaboration based upon value co-creation might for example reveal that the customer needs more frequent meetings in order to discuss results. This could for instance lead to a change in the value proposition element gain creator, such as stressing more on process quality management.

Business development learning is subsequently expected to start with the identification of relevant (customer) information concerning the business model value proposition (acquisition), which might be connected to the specific value proposition. Following the ACAP transfer, this relevant information is analyzed and processed (assimilation) in order to enable the transformation into applicable knowledge. Once the information is transformed into available knowledge (transformation), the business model value proposition might be re-aligned or substituted by the application of this knowledge (exploitation).

Furthermore, the concept of business model innovation is recognized as an iterative process (Sosna, Treviño-Rodríguez & Velamuri, 2010; Kranz et al., 2016), which leads to the necessity to apply a holistic view on the changes in the business model value proposition. The tentative framework (see Figure 2) subsequently distinguishes between the initial business model value proposition and the iteratively innovated business model value propositions, which are expected to serve as input for the value co-creation process.

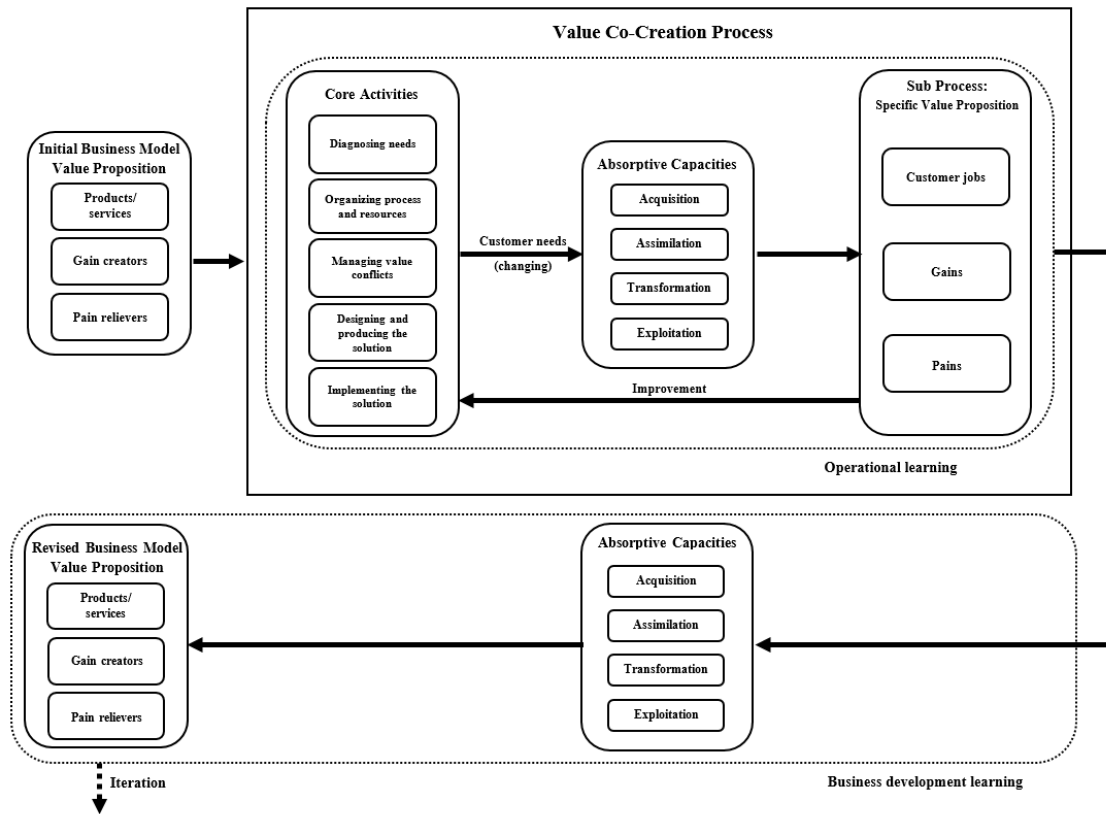


Figure 2. Tentative Framework - Conceptualization of learning in business model value proposition innovation

Even though the discussed connections appear to be logically coherent, the conceptualization lacks practical evidence and implicates structural gaps on how enterprises learn from their value co-creation processes. Consequently, the existence of operational and business development learning requires empirical confirmation.

As the connections between the value co-creation activities, organizational learning and business development learning remain indistinct, the tentative framework demands for a clarification of the information flow within the organization. For example, the literature review did not explain whether business development learning is directly connected to the value co-creation activities or only indirectly linked by organizational learning. Besides, the quality of the connection between organizational learning and business development learning requires further investigations, as it remains unclear whether there is a direct or an indirect link between the learning processes.

Moreover, the literature does not provide insight if or which elements of the value co-creation process deliver relevant information for the organizational change of business model value proposition innovation. In addition, it remains unclear if all or which parts of the defined business model value proposition are affected by the innovation process based on value co-creation input.

Overall, the deductively formed framework indicates a picture of reality, but requires for empirical supplementation. Within the following section the methods used to investigate the missing information will be elucidated.

Table 1. Definition of Key-Terms

Construct	Definition	Guiding References
Value	Benefits the customer needs; Can take various forms of services as advice or technological support	Osterwalder et al., 2014; Kohtamaki & Rajala, 2016
Value co-creation	“joint problem solving, which involves supplier and customer resources integrated in a collaborative interaction process.”	Aarikka-Steenroos & Jaakkola, 2012
Specific Value proposition	The specific offer the supplier co-creates together with the customer by means of reciprocal communication; Addresses specific customer jobs, pains and gains; Sub-process of the value co-creation process; changes per customer and project	Flint & Mentzer, 2006; Ballantyne et al., 2010; Osterwalder et al., 2014; Kohtamaki & Rajala, 2016
Business Model Value Proposition	The general offer the company provides to the market and customers; Comprising the description of product/ service offers, the description of ways to create gains and relieve pains; Part of the business model; Relatively stable and changing through the reciprocal alignment with the specific value proposition and value co-creation activities	Ballantyne et al., 2010 Plé et al., 2010; Clauß et al., 2014; Osterwalder et al., 2014
Strategic Orientation	Strategic direction, the company is aiming at; Consisting of the standing alone or co-occurring orientations ‘operational excellence’, ‘customer intimacy’ and ‘product leadership’	Treacy & Wiersema, 1995; Day (2006)
Operational learning	The use of absorptive capabilities to transfer relevant (customer) information by means of detection, assimilation, transformation and application; Takes place within the scope of the company’s operations and value co-creation activities; Supports the elaboration of the specific value proposition	Zahra & George, 2002; Hakanen, 2014; Komulainen, 2014; Kranz et. al, 2016
Business development learning	The use of absorptive capabilities to transfer relevant (customer) information by means of detection, assimilation, transformation and application; Continuation of the operational learning process on a business development level; Takes information from operational learning/ value co-creation activities/ specific value proposition into account and leads to business model value proposition innovation	Zahra & George, 2002; Hakanen, 2014; Komulainen, 2014; Kranz et. al, 2016
Knowledge intensive business services	“Companies processing knowledge by means of collection, creation or dissemination to a solution which is in line with the customer demands.”	Bettencourt et al., 2002; Aarikka-Steenroos & Jaakkola, 2012

3. Methodology

This chapter provides a detailed overview of the employed approach, data collection and analysis. It starts with a clarification of the applied research design, setting and ontological positioning in section 3.1 *Research design, setting & ontological positioning*. Section 3.2 *Data collection* describes the data collection and choices concerning their utilization. The chapter closes with section 3.3 *Data Analysis*, which gives a detailed overview of the methodological approach and quality management in section 3.3.1 *Approach* and a detailed description of the conducted analytical steps in section 3.3.2 *Analytical steps*.

3.1 Research design, setting & ontological positioning

For the purpose of the process investigation of value proposition innovation based on value co-creation activities over time, the study employed a longitudinal replication process analysis (Eisenhardt, 1989). It applied a retrospective view to facilitate the observation of changes over a longer period than the duration of the data collection phase.

The process investigation was situated in the context of an embedded single case study design (Yin, 2014). This design was chosen because of its suitability for a longitudinal process replication (Yin, 2014), which aims at the uncovering of pattern emergence over time (Langley, Smallman, Tsoukas & van de Ven, 2013). Moreover, the choice was supported by the revelatory potential of the selected case (Yin, 2014). The situation allowed an in-depth analysis by incorporation of sensitive data, access to all archival documents and the possibility to hold interviews in several levels of the organization. Besides, the case of ‘Service Inc.’ was revealing a new business model value proposition during the data collection period of this study, which additionally enabled in-time observation. Concerning the business specific characteristics the case fulfilled the contextual requirement to operate in a KIBS context, and was classified as an SME in the Dutch engineering sector.

The choices concerning the research analysis and design reflect the ontological approach of a qualitative process narrative (Van der Ven & Pool, 2005). The approach applied substantive metaphysics (Van der Ven & Pool, 2005; Langley et al., 2013), which means that this research looks on an organization as a ‘thing’ consisting of entities, whose characteristics can change.

3.2 Data collection

The data collection was conducted in August 2016, December 2016 & January 2017 and referred to the period of five years (2012-2016). In order to increase and diversify the information base (Yin, 2014), the data collection composed of 31 documents comprised both qualitative primary and secondary data sources (see 3.2.1 Primary data sources and 3.2.2 Secondary data sources). Besides, the quality of the data was assessed on authenticity, credibility, representativeness and meaning (Bryman & Bell, 2015), before the documents were added to the analysis.

3.2.1 Primary data sources

During the data collection phase five interviews of 102 minutes on average were conducted in a period of three weeks. In order to reflect all company levels essential for the learning process three project managers and two members of the board were interviewed, which supported a more reliable theory emergence through diversification (Eisenhardt, 1989).

In order to assure consistency, coherence, and to facilitate comparability (Bariball & While, 1994) a guiding standard interview protocol was developed and utilized. Moreover, the semi-structured interviews were pre-counterchecked on possible order effects of thematic

interrelations and lead questions (Bryman & Bell, 2015) and post- counterchecked on possible experimenter expectancy bias and post-hoc emerged lead questions.

One interview was excluded from the data set as the participant's employment period was significantly shorter than the period of all other interviewees leading to a lack in credibility.

3.2.2 Secondary data sources

The secondary data sources comprised archival, undisclosed and public longitudinal data. At this, the archival data consisted of project documents, such as quotations, progress presentations, progress evaluations, review documents and project descriptions (see also Appendix B: Units of analysis). The undisclosed data were composed of the year plans (2012-2016), which also included one separate five year forecast. Beyond this, the study incorporated the public company promotion film that was released in December 2016.

In order to diversify the data base and reduce biases (Patton, 2002; Yin, 2014) the incorporated projects were selected on aspects creating a broad variance within the data set: The projects covered all years of investigation, success and failure, SME and multinational customers, international and national customers, and were settled in different phases of the product development process.

3.3 Data analysis

3.3.1 Approach

The study based the analysis procedure on the abductive hybrid template method of Fereday and Muir-Cochrane (2006) to empirically explore the tentative framework and to guide the theory specifying observations (Poole, Van de Ven, Dooley & Holmes, 2000). The selected method encourages a structural integration of deductive and inductive data by means of an a priori coding manual and supports framework- and model-building. During the analysis procedure, this manual (see Appendix A: Coding manual) served as a base for the first coding cycle. Over the following coding cycles the manual was supplemented with indicators and inductive codes (see for instance Table 2: Excerpt from the coding manual - Value co-creation activities). Moreover, the data evaluation made use of the chronological sequencing principles of Yin's (2014) time-series analysis strategy to address the process based evolving nature of the phenomenon (Langley, 1999; Langley et al., 2013).

The analysis employed several quality management mechanisms. Concerning the credibility and the confirmability of the findings, the research applied respondent confirmation, peer discussion and review of the qualitative findings through a quantification of co-occurrences. Addressing the dependability, this study demonstrated analytical rigor by thorough conduction of the coding analysis in an iterative manner (Fereday & Muir-Cochrane, 2006; Langley et al., 2013) and additionally applied constant comparison and data triangulation (Yin, 2014; Bryman & Bell, 2015).

The analysis was moreover supported by the software tool atlas.ti 8.0.31.

Table 2. Excerpt from the coding manual - Value co-creation activities

Code 1	Deductive
Label	Diagnosing Needs: Value Co-Creation; (Aarikka-Steenroos & Jaakkola, 2012, p. 20)
Definition	Identification of the needs and goals for the exchange.
Description	Reciprocal communication about the problem understanding: "Our understanding of your problem". Responsibility of the supplier. Applied <u>while</u> the customer has agreed on the collaboration and getting a first offer. Not: Acquiring the customer.
Indicators	Identification of specific customer needs in order to define the project aims; mirroring already collected information and communicate with the customer about the alignment of the aims. "project understanding", "understanding", "project starts", "start", "project phase", "customer" "they want"

Table 2. (Continued)

Code 1A	Inductive
Label	Diagnosing needs: Acquisition
Definition	Identification of the needs and goals for the exchange before having started the official value co-creation process.
Description	Reciprocal communication about the problem understanding: “Our understanding of your problem”. Responsibility of the supplier. Applied <u>before</u> the customer has agreed on the collaboration and getting a first offer. Acquiring the customer.
Indicators	Identification of general customer needs in order to orient; getting into first contact with the customer before making an offer; convincing the customer that the supplier is the right choice for the job; sensing customer needs. “finding customers”, “market”, “new project developments”, “start”
Code 2	Deductive
Label	Designing and producing the solution; (Aarikka-Steenroos & Jaakkola 2012, p. 20)
Definition	Negotiation process to specify the problem and optimal value proposition for its resolution.
Description	Reciprocal communication about the problem alignment and agreement. Depending on information provided by the customer. Concerning the understanding of your problem; also concerning the execution of the service provided (development).
Indicators	Collaboration with the customer in the project and collaboration in order to refine the specific value proposition. “next project”, “next phase”, “management”, “deliverables”, “start ideas”
Code 3	Deductive
Label	Organizing the process and resources; (Aarikka-Steenroos & Jaakkola, 2012, p. 21)
Definition	Organizing the problem solving process and required resources based upon the key activities for the process.
Description	Structuring the value co-creation process and identifying, activating, collecting and integrating necessary resources to make value co-creation possible.
Indicators	Assigning employees to the projects; planning the project and aligning resources; making a team; people that are involved. “people”, “need”, “team”, “involved”, “responsible”, “operations”

In order to discover Service Inc.’s learning process, the coded data was analyzed by means of temporal bracketing, visual mapping (Langley, 1999) and listing similarities and differences (Langley et al., 2013). As the size of a process research is not based on the number of cases, but on the number of temporal observations (Langley et al., 2013) the phasic process analysis (Van de Ven & Poole, 2005) was grounded in three observation periods (see Table 3: Temporal bracketing).

The temporal bracketing was based on the combined contemplation of the business model value proposition innovation and the changes of the organization’s external context. In 2012-2013 Service Inc. was engaged with the proceeding merger of the two original companies, while the economic crisis began to have a larger impact on its operations. The qualitative analysis revealed that the changes in the business model value proposition within this period were more incremental and contrasting with the disruptive changes in 2014. Therefore, based on this finding and the qualitative assessment, the period of 2012-2013 was bracketed and named ‘Economic crisis, orientation and stabilization’.

In 2014-2015 Service Inc. decided to innovate its business model value proposition disruptively, as the persisting economic crisis caused a lasting lack of orders. The situation necessitated a reorganization of the company and an extension of its customer markets by internationalization. Addressing the situation through business model value proposition innovation as well, the company decided to change the focus of its service, to apply a high level of quality management concerning pain relievers and gain creators, and focused its strategic orientation on customer orientation. Subsequently, the organization started to implement the innovative decisions in the ongoing crisis situation, which was recognized through the observation of only few incremental changes in 2015 (see Table 3). This assessment led to the bracketing of the period of 2014-2015, which was named ‘Breakthrough innovation and implementation’.

When the effects of economic crisis began to disappear in 2015-2016, Service Inc. started to raise its activities in improving its business model value proposition again. By means of extended internal analysis Service Inc. innovated its business model value proposition and

strategic orientation in an incremental manner (see Table 3). As these changes were identified to further refine the breakthrough innovation, the period was recognized as ‘Ongoing implementation’.

Table 3. Temporal bracketing

Identified periods	Analyzed data	Findings
2012-2013: Economic Crisis, orientation and stabilization	Year plan 2012 Year plan 2013 Project A: Offer Project A: Project leaflet Project A: Status update (1) Project A: Status update (2) Project A: Project learnings Qualitative comparison Interview No. 1: Member of the board A Interview No. 2: Member of the board B Interview No. 4: Project manager B	<u>Context</u> Economic crisis; Proceeding merger
		<u>Innovation in 2013</u> Incremental innovation of the business model value proposition: Products and services, Gain creators; Incremental innovation of the strategic product leadership orientation; Raise of the strategic customer intimacy orientation
2014-2015: Breakthrough innovation and implementation	Year plan 2013 Year plan 2014 Year plan 2015 Multiannual strategy 2015-2019 Project B: Offer Project B: Customer company overview Project B: Project time line Project B: Kick-Off Presentation Project B: Project review (1) Project B: Project review (2) Interview No. 2: Member of the board B Interview No. 3: Project manager A Interview No. 4: Project manager B	<u>Context</u> Persisting economic crisis; Lack of orders; Reorganization; Internationalization
		<u>Innovation in 2014</u> Disruptive innovation of the business model value proposition: Products and services, Gain creators, Pain relievers; Disruptive innovation of the strategic customer intimacy orientation; Incremental innovation of the strategic product leadership orientation
		<u>Innovation in 2015</u> Incremental innovation of the business model value proposition: Gain creators; Incremental innovation of the strategic product leadership orientation
2015-2016: Ongoing implementation	Primary process Year plan 2016 Project C: Offer phase 1+2 Project C: Offer phase 3 Project C: Offer phase 4 Project C: Final report phase 1 Project C: Final report phase 2 Project C: Status update phase 3 Project C: Project review (1) Project C: Project review (2) Promotion video Interview No. 2: Member of the board B Interview No. 3: Project manager A Interview No. 4: Project manager B	<u>Context</u> Relaxing markets; Implementation and refinement of the chosen innovation by internal analysis
		<u>Innovation in 2016</u> Incremental innovation of the business model value proposition: Products and services, Gain creators, Pain relievers; Disruptive innovation of the strategic customer intimacy orientation; Incremental innovation of the strategic product leadership orientation

3.3.2 Analytical steps

The analysis followed the hereafter described five steps. For the purpose of different analytical aims, the complete data set was split into six units of analysis (see Appendix B).

Firstly, within the pre-data-collection-phase the preliminary coding manual was deductively developed to guide the analysis process (Fereday & Muir-Cochrane, 2006). During and after the completion of the collection the data was summarized to identify initial themes (Fereday & Muir-Cochrane, 2006), which led to a supplementation of the coding manual with indicators. The improved coding manual was then tested by a second person (Fereday & Muir-Cochrane, 2006) and further refined.

Secondly, in order to investigate the organization’s learning process the coding manual was next applied to the first unit of analysis consisting of the primary data sources. In order to

corroborate the findings and to reduce retrospective bias the company's 'primary process' scheme was utilized as preliminary cross-validation tool. As this process research applied substantive metaphysics (Van der Ven & Pool, 2005; Langley et al, 2013), a quantification of the qualitative analysis was possible. Hence, the qualitative analysis of this and all following units was supplemented with a quantitative co-occurrence contemplation of the elements as reification tool (see Appendix C, D, G & H).

Thirdly, to specify the findings and to get an overview of the changes within the business model value proposition over time, the second unit of analysis comprising secondary data sources was coded and analyzed by means of temporal bracketing, visual mapping and listing similarities and differences per year (Langley, 1999; Langley et al., 2013).

Fourthly, as the further coding of the project documents identified the framework elements, but seemed to contain more information, the next step of the analysis comprised a holistic contemplation of the data set within the third unit of analysis. The evaluation of the coded documents by means of visual mapping (Langley, 1999) led to additional inductive codes and re-coding of all previously coded documents. Aside from that, the framework was adapted to the new insights.

Fifthly, the complete data set was then split into three additional units of analysis reflecting the previously bracketed innovation phases. The aim of this analytical step was to both enable the in-depth consideration of the events, activities and processes and to additionally corroborate the identified themes and patterns (Fereday & Muir-Cochrane, 2006; Bryman & Bell, 2015) within the bracketed periods.

4. Results

This chapter presents the results of the study. It starts with a case description in section 4.1 *The case of Service Inc.* This section is followed and closed by the detailed description of the process findings in section 4.2 *Findings of the process research*, which discusses the process per bracketed period in the sections 4.2.1 2012-2013: *Economic crisis, orientation and stabilization*, 4.2.2 2014-2015: *Breakthrough innovation and implementation* and 4.2.3 2015-2016 *Ongoing implementation*.

4.1 The case of Service Inc.

Service Inc. is an SME that operates within the Dutch and international engineering sector. In 2011 the company was established through the fusion of a project consultancy company and a mechanical engineering business. It offers a project based product development service, which concerns various products in the professional, the consumer and the medical market.

Service Inc. utilizes a hybrid organization structure, in which the ca. 40 core employees are supported by an additional flexible network on demand. The typically flat Dutch structure of the enterprise comprises three core departments. Firstly, the business development department consisting mainly of the members of the board, which are responsible for business development and account management. Secondly, the operations department, which is composed of the technical core and the project management. The department is organized in an agile team structure and accountable for the accomplishment of the daily business. Thirdly, the administration department, consisting of administrative employees, and responsible for financial and general administrative work.

Service Inc., working in the field of knowledge intensive business services, considers itself to be a learning organization that is attentive to changing customer and market needs. The organization aims at the improvement of its operations as part of their daily business.

4.2 Findings of the process research

4.2.1 2012-2013: Economic crisis, orientation and stabilization

The analysis of the period revealed several contextual circumstances, which had an impact on the business model value proposition innovation. In 2012-2013 Service Inc. recognized internal and external signals that emphasized a necessary change. The young enterprise faced alterations within its operating markets that were caused by the persisting economic crisis and the financial pressure on product development budgets. Besides, the company experienced issues with respect to the quality of its work, whose origin was found in the ongoing fusion process (see 4.1 The case of Service Inc.). The proceeding merger still created frictions in the work flow of the daily operations. These internal and external triggers were both recognized by the project management and the board of directors (hereafter also called account management). Subsequently, Service Inc. realized that it had to act in order to survive.

The qualitative assessment showed that the recognition of the relevant signals by the account management was realized through a communication mechanism. Before 2012-2013, the company had established a preliminary project steering system, which was composed of two communication lines. The first communication line concerned the content-related execution of the project and was accomplished by the project management. This main communication was supported by a second line of communication, in which the account management evaluated the project quality and progression together with the customer.

“the project is run by project manager and his team. Then his [customer’s] communication is with the 9 of the 10 times with the project management inside the company, inside our customer. (...) Each project we would like to have a counter part of (...) one of our sales colleagues in the company that is much more looking to the process running and the process of our way of working together with the customer. (...) So we communicate on a different level. More an abstract level. (...) So we like to have two communication levels. “
(Member of the board B)

In terms of the framework this finding supported the assumption that the triggers and the relevant customer information were transferred from the value co-creation activities by operational learning to business development learning. Besides, the data assessment showed that the specific value proposition (the specific offer to the customer) was developed by means of operational learning and further influenced the business development learning process.

The origin of the triggers and relevant information was identified in the value co-creation activities, which were all successfully identified in the period. By means of communication between project management and the customer (operational learning) the specific value proposition was developed: In 2012-2013 a value co-creation project started with the identification of specific customer jobs, specific gains and specific pains, which formed part of the main specific value proposition elements. At this, the operational learning was mainly identified within the value co-creation activities diagnosing needs (value co-creation) and organizing the processes and resources. Therefore, the information transfer from the value co-creation activities into the specific value proposition was verified.

Table 4. Co-occurrence of value co-creation activities and specific value proposition in 2012-2013

	Designing and producing the solution	Diagnosing needs: Acquisition	Diagnosing needs: Value Co-Creation	Implementing the solution	Managing value conflicts	Organizing the process and resources
Specific Customer Jobs			6 (0,27)			1 (0,05)
Specific Gain creator	2 (0,15) ^a		2 (0,07)		1 (0,05)	1 (0,04)
Specific Gains			5 (0,22)		1 (0,05)	
Specific Pain Reliever			3 (0,12)		2 (0,11)	2 (0,10)
Specific Pains			2 (0,10)			
Specific Products and Services			1 (0,04)			3 (0,19)

Note: Co-occurrence in total numbers

^a Correlation in brackets

Next to this, the data assessment uncovered, that the value co-creation activity diagnosing needs consisted of two phases: The acquisition phase, in which the customer was mainly acquired by the account management and the value co-creation phase, in which both account management and project management worked together in order to diagnose specific customer jobs, pains and gains. Moreover, the analysis revealed that the specific value proposition comprised an additional reflection of the business model value proposition elements. The quotation, which was developed together with the customer, the project management and the account management described how Service Inc. was going to approach the customer’s

problem (specific products and services), how they were going to reach the agreed project aims (specific gain creators) and how they addressed the mitigation of discussed issues (specific pain relievers).

The investigations of 2012-2013 showed that the established offer was relatively stable during the project execution and only slightly adapted to emerging changes: The operations team focused on the achievement of the agreed aims. This finding emphasized, that the strategic orientation of the business model value proposition was not supporting 'customer intimacy', which focuses on a hand-holding customer service.

"In upfront we try to identify what the exact need of the customer is. Mostly it is in-depth technical development, because that is what we are saying. (...) our approach to the success is having the different phases, mitigating different risks or the uncertainties of the project are shifted to the front end of your project." (Project manager B)

Furthermore, the operational learning was confirmed to consist of the absorptive capacity elements. In order to establish the project specific value proposition the project management acquired the relevant customer information by asking the customer for a description of his needs, which reflects the acquisition process of absorptive capacities. In discussion with the customer the project management analyzed and processed the acquired information that mirrors the assimilation process of absorptive capacities. The gathered information was then transformed into applicable knowledge (transformation of absorptive capacities) and exploited within the quotation offered to the customer, which finally depicts the exploitation process of absorptive capacities. Once this specific offer was established, reviewed by the account management, and eventually accepted by the customer, the further execution of the project started. The progression on the project involved the value co-creation activities managing value conflicts, implementing the solution, designing and producing the solution and organizing process and resources (iteratively).

The description of the processes elucidates the transfer of relevant customer information from Service Inc.'s daily operations to the business development learning. Through operational learning in communication line one the project management defined the specific value proposition together with the account management, which formed simultaneously part of the business development learning process. By participating in the project establishment the account management gathered relevant customer information for the business development process, which represented the acquisition of information for business development learning. Besides, project and account management discussed the project progression on an ad-hoc base, which additionally supported the acquisition process of business development learning. Concerning the second line of communication, the direct contact and discussion of account management and customer also contributed to the acquisition of information for business development learning. The indirect connection between the value co-creation activities and business development learning by operational learning was consequently confirmed. Moreover, the findings revealed that business development learning is connected with operational learning by its acquisition process.

The evaluated transfer processes explained how Service Inc.'s board of directors gathered information about the project quality issues and the increasing pressure on product development budget. By means of transforming the input into company internal analysis results, the organization established a basis for action. The contemplation of the business development learning furthermore showed that the project specific value proposition elements were generalized by transformation. The prepared information was finally exploited by several actions such as changes within the business model value proposition.

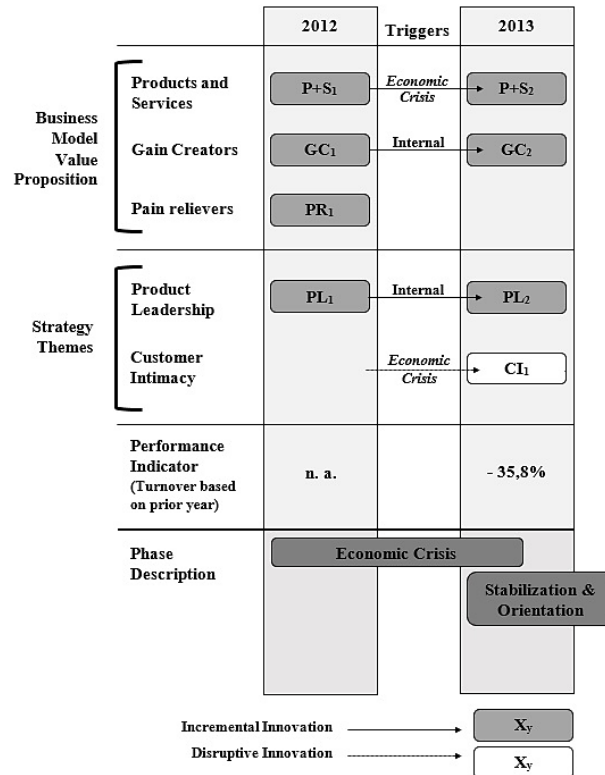


Figure 3. Changes in the business model value proposition in 2012-2013

The investigation of the year plans of 2012 and 2013 revealed three incremental and one disruptive innovation in the business model value proposition. The analysis defined an incremental change as a small change within existing elements, while a disruptive innovation was classified as emergence, vanishing or substantial change of business model value proposition elements. In 2012-2013 the innovation of the business model value proposition elements products and services, gain creators, the strategic orientation product leadership were classified as incremental innovation (see Figure 3: Changes in the business model value proposition in 2012-2013). Solely the strategic customer intimacy orientation emerged in 2013, which was recognized as disruptive innovation.

Addressing the incremental changes within products and services the company identified a shift from the product finalization towards the concept development stage in their projects. This finding led to a slight focus on concept development projects in the market and an emphasis on technology development instead of the previous product design focus. Moreover, the information about quality issues in the projects led to an emphasis on process quality, which was classified as incremental change of the gain creator. Next to that, the perceived customer dissatisfaction gave rise to customer satisfaction measurements in 2013, which reflected an incremental change in the strategic product leadership orientation. The product leadership orientation aims at becoming one of the best companies in its field. Subsequently, the collection of more customer information in order to reach a better performance level was accounted to product leadership. Lastly, as Service Inc. was facing a severe performance loss of -35.8% regarding the turnover in 2013, the board of directors decided to extend its home market through international markets. This decision led to the rise of the strategic customer intimacy orientation, as the account management of international clients demanded a more through observation of the ‘unfamiliar’ customer needs.

Table 5. Results 2012-2013

	Analytical aim	Results	Exposition/Examples
Context	Elaborating the contextual circumstances	Ongoing merger process	Frictions in organizational processes
		Economic crisis	Pressure on budgets
	Identification of triggers	Identification of quality issues	E.g. issues with changing employees within the projects and customer confusion
		Economic crisis	Pressure on budgets
Business model value proposition innovation	Identification of business model value proposition innovation	Incremental change of products and services	Slight shift in project focus regarding the product life cycle
		Incremental change of gain creators	Stressing on the quality of work
		Incremental change of strategic product leadership orientation	Measuring customer satisfaction
		Disruptive emergence of strategic customer intimacy orientation	Focusing more on international markets; Raise of the demand for more through customer observation
Value co-creation process	Assessing the quality of the connections between the elements	Identification of the connection between value co-creation activities and operational learning	Operational learning takes place within all defined value co-creation activities (communication line one)
		Identification of the connection between operational learning and the specific value proposition	Operational learning leads to the emergence of the specific value proposition (communication line one)
		Identification of the connection between operational learning and business development learning	Business development learning acquires relevant information from the organizational learning process by participation of/ discussion with the account management (board of directors) (communication line two)
		Identification of the connection between business model value proposition, its strategic orientation and business development learning	Exposed changes within the year plans based upon the identification of relevant information (acquisition), analysis (assimilation) and transformation by company internal analysis into applicable knowledge; Subsequent incremental & disruptive changes of business model value proposition and strategic orientation
		Identification of the connection between business model value proposition, its strategic orientation and operational learning	Indirect connection through business development learning (communication line one)
		Identification of the connection between the generalization of the specific value proposition and business development learning	Identification of the generalization of specific value proposition elements within the scope of the year plans; Exhibition of the business development learning process

4.2.2 2014-2015: Breakthrough innovation and implementation

The analysis of the period revealed several contextual circumstances, which had an impact on the business model value proposition innovation in 2014-2015. Within the period before the breakthrough innovation, 2013-2014, the economic crisis was still perceptible. The market and potential customers acted still cautiously, making it difficult for Service Inc. to compensate the loss of customers in the previous period. This critical condition forced the company to thoroughly rethink its situation. It conducted several stabilization activities, in which it made use of all market and customer observations gathered in the previous period. Finally, Service Inc.'s board of directors decided to strategically reorganize its business next to the applied changes in the business model value proposition. Based upon the observed shift

from product design to technology development in 2012-2013 and the demand for cost reduction, the company reduced its team by focusing on employees possessing a more technical background. Following, Service Inc. decided to perform several analysis procedures, which included internal and external aspects, and applied several activities to obtain a grounded overview of the situation.

The implementation of the activities supporting the improvement of the working quality included that the account management was increasingly involved in the company processes. Amongst others, the account management focused on the operational work by establishing project review meetings. Within these meetings the current projects were jointly assessed by project management, account management and partially lead engineers in order to improve the working quality. This proceeding gave rise to a stronger interconnection of operational learning and business development learning, which also connected the learnings from all value co-creation activities with the acquisition of information for business development learning.

“You are having project reviews with business development team, I mean the account management, the project management and the lead engineers, in which you kind of are discussing the main learnings (...)” (Project manager B)

Besides, this information transfer was facilitated by the ad-hoc communication between account and project management and a stronger support of the account management within the value co-creation activities diagnosing needs (value co-creation), designing and producing the solution and organizing the process and resources. Based upon the learnings in 2012-2013 and in order to improve supplier-customer alignment, Service Inc. decided to implement project ‘kick-off’ meetings. These meetings served as a communication base, in which account management and project management together with the customer diagnosed the project specific needs, designed and produced the solution and organized process and resources. The evaluation of the data revealed that this process was supported through acquiring, assimilating and transforming customer information into the basic customer information (operational learning). In combination with additional input this information was then exploited in the specific value proposition document: the quotation.

Table 6. Co-occurrence of specific value proposition and organizational learning in 2014-2015

	Operational Learning: Acquisition	Operational Learning: Assimilation	Operational Learning: Transformation	Operational Learning: Exploitation
Specific Customer Jobs	1 (0,03) ^a		5 (0,07)	6 (0,06)
Specific Gain creator	5 (0,08)	4 (0,07)	19 (0,21)	29 (0,26)
Specific Gains	4 (0,06)	3 (0,05)	15 (0,16)	24 (0,21)
Specific Pain Reliever	4 (0,11)	2 (0,06)	4 (0,05)	7 (0,07)
Specific Pains	1 (0,03)	1 (0,03)	9 (0,13)	5 (0,05)
Specific Products and Services	1 (0,02)	1 (0,02)	5 (0,06)	33 (0,38)

Note: Co-occurrence in total numbers

^a Correlation in brackets

The integration of the account management strengthened the acquisition process for business development learning. It enhanced the integration of information from all value-co-creation activities and the specific value proposition into the business development learning process. Besides, the bilateral position of one member of the board of the directors as project manager increased the knowledge base for business development learning and explained the depicted connection of transformation and exploitation with the value co-creation activities.

As the account management simultaneously increased actions in customer acquisition, the connection of business development learning and diagnosing needs (acquisition) also gained more importance.

Table 7. Co-occurrence of value co-creation activities and business development learning in 2014-2015

	Business Development Learning: Acquisition	Business Development Learning: Assimilation	Business Development Learning: Transformation	Business Development Learning: Exploitation
Designing and Producing the Solution	31 (0,23) ^a		2 (0,01)	1 (0,01)
Diagnosing Needs: Acquisition	2 (0,02)		6 (0,06)	3 (0,03)
Diagnosing Needs: Value Co-Creation	6 (0,05)		2 (0,01)	1 (0,01)
Implementing the Solution	10 (0,12)			
Managing Value Conflicts	18 (0,20)		4 (0,04)	3 (0,03)
Organizing the Process and Resources	37 (0,31)		3 (0,02)	1 (0,01)

Note: Co-occurrence in total numbers

^a Correlation in brackets

The analysis and generalization of the acquired information together with the still existent external pressure caused the board of directors to apply heavy changes to its operations. Amongst others, this resulted in a breakthrough innovation of the business model value proposition. Since the crisis was still putting pressure on the company's turnover expectations, Service Inc. decided to focus even more on international markets: The range of its European target countries was extended from two to four, which led to several successful customer acquisitions. Moreover, this internationalization of the projects triggered the innovation of the enterprises' general products and services, gain creators, pain relievers and the strategic customer intimacy orientation.

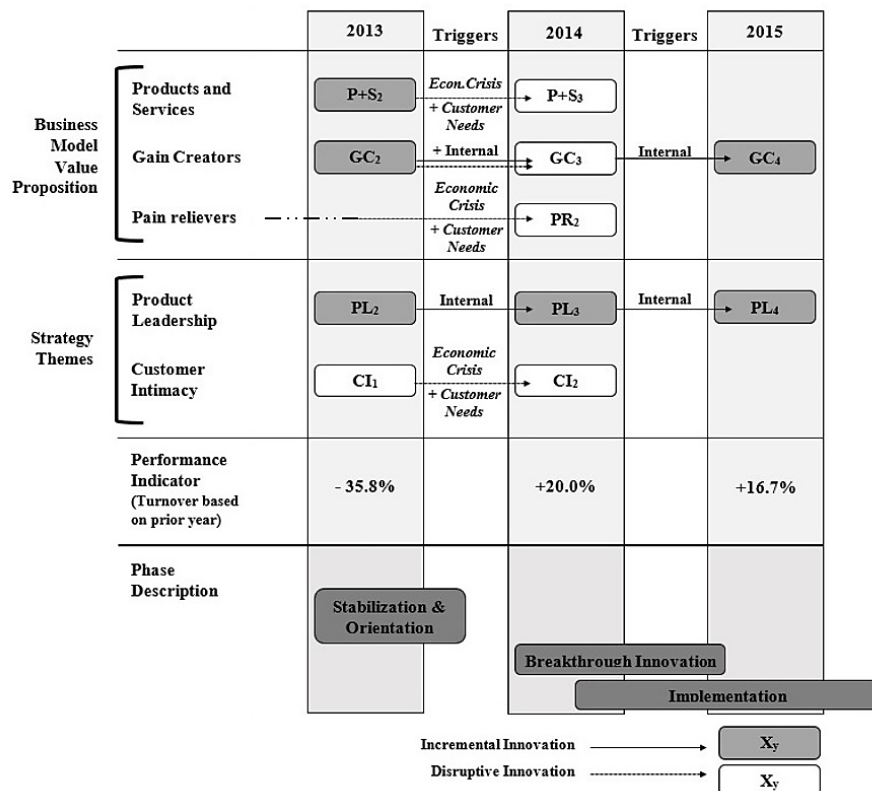


Figure 4. Changes in the business model value proposition in 2013-2014

The beginning work with the international customers initiated Service Inc. to observe its customers more thoroughly in 2012-2013, which was persistent and extended to national customers in 2014-2015. This external observation and internal analysis led Service Inc. to the detection of shorter product-life-cycles, which reciprocally demanded product development processes to be quicker. The company answered to this need through an increase in the operational efficiency. The organization enhanced the project flexibility, which implied a disruptive innovation of the general gain creator. Based on the collaboration on distance the enterprise realized the need for further professionalization and a more structured approach in order to implement the targeted flexibility. This change in the operational activities was subsequently identified as incremental change of the strategic product leadership orientation. Moreover, it became clear, that Service Inc.'s outsourcing customers expected to have less difficulties with the project.

"It is not only technical competence, but it could also be capacity or speed or as called 'ontzorgen' in het Nederlands - so they don't have trouble, we take the project, we come up with better results in four weeks (...). They don't want to have a lot of hassle with that project. They want to be informed weekly, they want to have the results." (Project manager B)

Addressing the demand by generalizing the specific customer needs, the general pain reliever was innovated disruptively through Service Inc.'s decision to prevalently take over the lead in the projects and to extend its customer service concerning risk management. This extension of the consultancy role furthermore reflected a disruptive innovation of the strategic customer intimacy orientation.

As the internationalization also emphasized an increased working with multinational customers, Service Inc. realized the more frequent demand for technology development within the context of a systemic approach. This recognition subsequently caused the focus of its product development service to shift towards a product systems focus within a certain product range. This big change was classified as disruptive innovation of the general products and services.

Eventually, the implementation of the cost reduction and the strategic innovation agenda exhibited a positive effect: Service Inc.'s turnover raised by 20% in 2014, which involved several consequences for the business operations. Following the aim to enhance the enterprise's degree of professionalization and to apply more structure to the operations, the specific value proposition gained more importance and served as a red line within the scope of the projects and all value co-creation activities.

Table 8. Co-occurrence of specific value proposition and value co-creation activities in 2014-2015

	Specific Customer Jobs	Specific Gain creator	Specific Gains	Specific Pain Reliever	Specific Pains	Specific Products and Services
Designing and Producing the Solution	6 (0,07) ^a	30 (0,29)	19 (0,17)	7 (0,07)	4 (0,04)	24 (0,27)
Diagnosing Needs: Acquisition		1 (0,02)				
Diagnosing Needs: Value Co-Creation	9 (0,17)	5 (0,05)	14 (0,17)		1 (0,01)	9 (0,13)
Implementing the Solution		4 (0,07)	5 (0,09)			1 (0,03)
Managing Value Conflicts		5 (0,07)	2 (0,03)	4 (0,10)	8 (0,20)	5 (0,10)
Organizing the Process and Resources		23 (0,22)	4 (0,03)	10 (0,11)	8 (0,09)	18 (0,20)

Note: Co-occurrence in total numbers

^a Correlation in brackets

Furthermore, the emphasis on multinational companies and the associated focus on a more systemic approach led to a stronger connection of the business model value proposition with the specific value proposition: The specific value proposition was identified to reflect the general products and services in a more coherent manner. Besides, the accent on the strategic customer intimacy orientation through an intensified project steering service was identified to have an impact on the value co-creation activities and organizational learning. Likewise, this streamlining of the project steering exhibited the growing importance of the business model value proposition as a guiding line. Especially the activities designing and producing the solution and organizing process and resources were identified to have a strong connection with the strategic customer intimacy orientation. Moreover, the analysis of the data enabled the recognition of a stronger use of the previous business model value proposition as basis for the business development learning process. The innovative changes and the organizational analysis process in 2014-2015 were depicted in a more detailed manner than before, allowing the qualitative analysis to investigate the stronger coherence of business development learning and the business model value proposition innovation.

This phase of massive actions in the beginning of 2014 was exhibited to the outer world by a change in the company's name and followed by an implementation period, as the realization of all intended changes required some effort and time. In 2014-2015 the market started to relax slowly, which was accompanied by a steady improvement of the order position. Service Inc.'s turnover grew by 16.7% in 2015, which validated the changes applied in 2014, since the company put more effort in the implementation of the changes than in further business development. In 2015 the business model value proposition changed only incrementally by giving an accent on result driven project work. Nevertheless, this marginal adaption was captured as incremental change of the general gain creator, which mirrored an incremental adaption of the strategic product leadership orientation.

Table 9. Results 2014-2015

	Analytical aim	Results	Exposition/Examples
Context	Elaborating the contextual circumstances	Reorganization of the company	Reducing personal by stressing more on employees with a technical background
		Ongoing economic crisis and slow market recovering	Difficulties to acquire new customers; Stronger focus on internationalization
		Exhibiting change process to the outer world	Changing the company's name
	Identification of triggers	Internationalization	Focusing stronger on international markets and addressing other countries than before; Increasing the number of multinational customers
		Stressing on customer needs based on internal analyses	Detection of the need to have a faster product development process caused by shorter product-life-cycles
Business model value proposition innovation	Identification of business model value proposition innovation	Disruptive changes of products and services	Shift in product development focus; Addressing the customer needs through a systemic focus
		Disruptive changes in gain creators	Improving the quality of work by focusing on customer satisfaction: Stressing on efficiency, professionalization, more structure and review meetings; Adding the possibility to be more flexible within the process (customer needs)
		Incremental changes in gain creators (2015)	Putting an accent on a more result driven approach
		Disruptive changes in pain relievers	Detection of customer need to have 'no hassle' with the outsourced project; Stressing more on risks management
		Disruptive changes in strategic customer intimacy orientation	Detection of the customer needs 'being more flexible' and 'having no hassles' led to taking more the lead within the project execution and consultancy role

Table 9. (Continued)

	Analytical aim	Results	Exposition/Examples
Business model value proposition innovation	Identification of business model value proposition innovation	Incremental changes in strategic product leadership orientation	Stressing on efficiency, flexibility, professionalization and more structure within project execution; Putting an accent on result driven project approach (2015)
Value co-creation process	Assessing the quality of the connections between the elements	Identification of the connection between value co-creation activities and operational learning	Operational learning takes place within all defined value co-creation activities
		Identification of the connection between operational learning and the specific value proposition	Operational learning leads to the emergence of the specific value proposition
		Identification of the connection between value co-creation activities and the specific value proposition	Specific value proposition serves as red line within all value co-creation activities, supporting the whole process; Consequence of increased process structuring
		Identification of the connection between operational learning and business development learning	Business development learning acquires relevant information from organizational learning process by participation of/ discussion with account management; Stronger position of the account management by review meetings/ steering quality improvement process
		Identification of the connection between business model value proposition, its strategic orientation and business development learning	Exposed changes within the year plans based upon the identification of relevant information (acquisition), analysis (assimilation) and transformation by company intern analysis into applicable knowledge; Followed by incremental and disruptive changes of business model value proposition and strategic orientation
		Identification of the connection between business model value proposition, its strategic orientation and the value co-creation activities	Increased importance of customer intimacy: detection of the orientation within all activities; Strong connection with designing and producing the solution and organizing the process (stressing on consultancy)
		Identification of the connection between business model value proposition, its strategic orientation and operational learning	Products and services used as basis for specific value proposition; Stressing on customer intimacy during organizational learning within the value co-creation activities
		Identification of the connection between the generalization of the specific value proposition and business development learning	Identification of generalization of specific value proposition elements in year plans; Exhibition of business development learning process
		Identification of the connection between business development learning and value co-creation activities	Strong connection between all value co-creation activities and acquisition of business development learning; Stronger integration of account management into value co-creation process by project reviews; Stronger connection between business development learning and diagnosing needs (acquisition): demand for new customers led to increased business development learning in this activity Stronger integration of account management into operations by focusing on qualitative process changes (quality, flexibility, structuring, professionalization)

Table 9. (Continued)

	Analytical aim	Results	Exposition/Examples
Value co-creation process	Assessing the quality of the connections between the elements	Identification of the connection between the specific value proposition and business development learning	Connection between specific value proposition and business development learning by acquisition; Stronger integration of the account management into value co-creation process; Improving the two lines of communication by more discussion between project management and account management (project reviews)

4.2.3 2015-2016: Ongoing implementation

Service Inc. proceeded with the implementation of the strategic changes in 2015-2016. The market situation continued to recover from the economic crisis and provided a better order position. However, the ongoing observation of the home market caused Service Inc.'s board of directors to expect a stagnation in the revenue for the coming period. Therefore, the enterprise decided to persist on the previously started internationalization of the target markets. The relaxing situation in 2015-2016 in combination with the verification of the decisions through the re-growing turnover allowed Service Inc. to go on with the implementation process. By means of internal analysis and activity road mapping the organization refined the chosen path.

The more internally directed view and the emphasis on the refinement influenced also the company's learning process. The subject of the previously implemented review meetings shifted from the assessment of the project quality towards the discussion of learnings.

"And we need to adapt continuously or improve continuously. And that's about exchanging information internally - we do reviews of projects etc., etc. I mean, you try to grab the learnings and put those into your processes. Not so easy but, it's still people that do the work and people make mistakes etc., etc. and every project is different, but generally, I think we're taking the learnings and implementing them into the process." (Project manager A)

Subsequently, business development learning gathered more information from operational learning with respect to the internal learnings. This finding connected the value co-creation activities and the specific value proposition indirectly with the acquisition process of business development learning. Apart from that, the analysis revealed that business development learning directly acquired information from the value co-creation process as well. Nevertheless, the acquisition did not take place within the activities diagnosing needs (acquisition and value co-creation), which was in line with Service Inc.'s aim to refine the taken business innovation path: The diagnosing needs activities were more strongly connected with the beginning of value co-creation projects, which injected more external or new customer input instead of information concerning the improvement of the process quality.

Again, the ongoing professionalization supported a stronger integration of the previous business model value proposition into the actions of operations. The business model value proposition was identified to serve as an even stronger basis for the value co-creation activities and subsequently for organizational learning. Mirroring the proceeded implementation of the change the impact of the business model value proposition was extended to the value co-creation activities diagnosing needs (acquisition), implementing the solution and managing value conflicts.

Moreover, the analysis revealed the emergence of the connection between the specific value proposition and the business model value proposition through the strategic customer intimacy orientation. The effort to develop a hand-holding customer service was clearly recognized within the specific customer offers.

Table 10. Co-occurrence of specific value proposition and strategic orientation in 2015-2016

	Strategic Customer Intimacy Orientation	Strategic Product Leadership Orientation
Specific Customer Jobs	4 (0,08) ^a	
Specific Gain creator	5 (0,04)	
Specific Gains	12 (0,16)	
Specific Pain Reliever	3 (0,05)	
Specific Pains	1 (0,02)	
Specific Products and Services	9 (0,13)	

Note: Co-occurrence in total numbers

^a Correlation in brackets

Within this period the direct link between operational learning and the specific value proposition was confirmed as well. Operational learning served as basis for the establishment of specific value propositions, which still formed the ‘red line’ for the execution of the value co-creation projects. Therefore, the connection between the specific value proposition and all value co-creation activities was confirmed again.

In order to transfer the information from the inward-directed view Service Inc. performed company internal analyses and processed the information into an activity roadmap comprising the incremental changes of the business model value proposition elements. At this, the analysis showed - in line with the findings of 2014-2015 - that the business development learning process transformed the information by generalization to general customer jobs, pains and gains.

Table 11. Co-occurrence of business model value proposition and business development learning in 2015-2016

	Business Development Learning: Acquisition	Business Development Learning: Assimilation	Business Development Learning: Transformation	Business Development Learning: Exploitation
General Customer Jobs			4 (0,10)	
General Gain Creators	1 (0,01) ^a		5 (0,07)	16 (0,18)
General Gains			1 (0,02)	
General Pain Relievers			5 (0,10)	10 (0,13)
General Pains			1 (0,02)	
General Products and Services			12 (0,16)	29 (0,33)

Note: Co-occurrence in total numbers

^a Correlation in brackets

By addressing the strategic orientation of product leadership, or the guiding company aim, Service Inc. incrementally changed its general products and services. Paradoxically, by putting a stronger emphasis on the customer intimacy orientation and stressing on consultancy skills in its general products and services, Service Inc. served its aim of product leadership and met the identified customer needs. Moreover, the company developed the general gain creators incrementally through additional effort in giving the process more structure (offering additional financial reviews) and enabling more agile project handling.

Table 12. Co-occurrence of business model value proposition and business development learning in 2015-2016

	Strategic Customer Intimacy Orientation	Strategic Product Leadership Orientation
Business Development Learning: Acquisition		3 (0,04)
Business Development Learning: Assimilation		1 (0,02)
Business Development Learning: Transformation	1 (0,01) ^a	8 (0,12)
Business Development Learning: Exploitation	5 (0,05)	22 (0,26)

Note: Co-occurrence in total numbers

^a Correlation in brackets

Service Inc. further recognized that its customers appreciated the seniority of the organization's processes and employees, which caused an incremental change of the gain creator. Lastly, Service Inc. revealed a new slogan, which expressed these incremental changes in order to exhibit the internal changes to the outer world. Besides, the internal analysis uncovered the even stronger customer need for risk reduction and caused the enterprise to incrementally innovate its pain relievers by accentuating its risk awareness. These changes were reflected in a disruptive innovation of the strategic customer intimacy orientation and incremental adaption of the product leadership orientation. In order to enhance the employees' customer intimacy sensibility, Service Inc. offered extensive project management skills workshops. Next to that, the company further refined the quality of its operational work and put a stronger accent on the result driven project approach.

To conclude, these changes also led to an increase in the turnover of 14.2% in 2016, supporting the positive effects of Service Inc.'s effort and proving that the company managed to survive the even more than critical situation in 2012-2013.

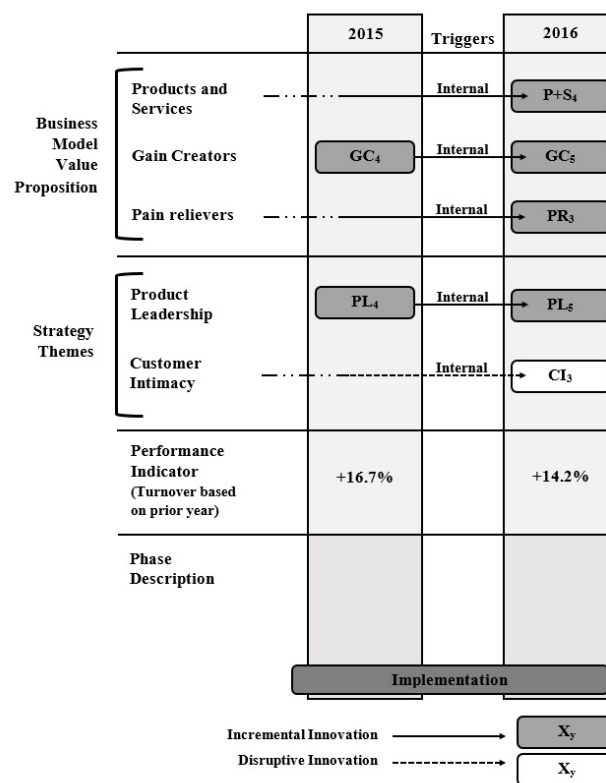


Figure 5. Changes in the business model value proposition in 2015-2016

Table 13. Results 2015-2016

Level of analysis	Analytical aim	Results	Exposition/Examples
Context	Elaborating the contextual circumstances	Further relaxing markets	Expected turnover-stagnation in the home market
		Focusing on stabilization	Extension of internal analysis procedure by activity road mapping
	Identification of triggers	Internationalization	Intensifying the efforts on international markets because of expected turnover-stagnation of the home market
		Refinement of the chosen path	Stressing on internal analysis for further refinements of chosen path
Business model value proposition innovation	Identification of business model value proposition innovation	Incremental changes in products and services	Stressing on consultancy skills: Design manage and improve

Table 13. (Continued)

Level of analysis	Analytical aim	Results	Exposition/Examples
Business model value proposition innovation	Identification of business model value proposition innovation	Incremental changes in gain creators	Improving the quality of work based on customer satisfaction observation; Further development of the structural and agile project approach; Stressing on seniority/ experience of the organization's employees; New slogan emphasizing the result driven and innovative project approach
		Incremental changes in pain relievers	Further detection of customer needs for risk reduction; Stressing more on risk awareness
		Disruptive changes in strategic customer intimacy orientation	Putting a stronger emphasis on the project consultancy and hand-holding service; Giving training to the employees in project management
		Incremental changes in strategic product leadership orientation	Putting an accent on result driven project approach; Further developing the quality of the offered work
Value co-creation process	Assessing the quality of the connections between the elements	Identification of the connection between operational learning and the specific value proposition	Operational learning leads to the emergence of the Specific value proposition
		Identification of the connection between value co-creation activities and the specific value proposition	Specific value proposition still serves as a red line within all value co-creation activities
		Identification of the connection between operational learning and business development learning	Subject of the review meetings changed from quality assessment to discussion of learnings; Support of the internally directed learning process; Acquisition of information in business development learning from operational learning
		Identification of the connection between business model value proposition, its strategic orientation and business development learning	Exposed changes in year plans; Nearly no detection of acquisition and assimilation of information, but transformation by generalization from the specific value proposition and exploitation in general gain creators, pain relievers and general products and service; Expression of the implementation phase and emphasis on internal analysis; Stronger connection of business development learning and product leadership expressing the emphasis on further operational improvements
		Identification of the connection between business model value proposition, its strategic orientation and the value co-creation activities	Ongoing integration of the business model value proposition into the value co-creation activities; Identification of the extension to diagnosing needs (acquisition), implementing the solution and managing value conflicts.

Table 13. (Continued)

Level of analysis	Analytical aim	Results	Exposition/Examples
Value co-creation process	Assessing the quality of the connections between the elements	Identification of the connection between business model value proposition, its strategic orientation and operational learning	Connection between all core business model value proposition elements and the operational learning; Extension of its impact based on further stream lining and implementation of structural approach; Strong connection between operational learning and customer intimacy (Exhibition of emphasis on consultancy skills and changed approach); Connection with strategic product leadership orientation addressing incremental changes of gain creators (result driven approach)
		Identification of the connection between the generalization of the specific value proposition and business development learning	Identified generalization of specific value proposition elements in year plans; Exhibition of business development learning process
		Identification of the connection between business development learning and value co-creation activities	Strong connection between value co-creation activities and acquisition of business development learning; No connection between diagnosing needs (acquisition and value co-creation) and acquisition of business development learning; Indication of less activities in business development learning from external sources; Focusing more on internal analysis
		Identification of the connection between the specific value proposition and business development learning	Connection between specific value proposition and business development learning by acquisition (project reviews)
		Identification of the connection between value co-creation activities and operational learning	Operational learning takes place within all defined value co-creation activities
		Identification of the connection between specific value proposition and business model value proposition	Implementation of structural approach/ streamlining the processes; Strong accent on strategic customer intimacy theme in all elements of specific value proposition (expression of emphasis on consultancy skills)

5. Discussion

This chapter evaluates the results and utilizes the three bracketed periods as a basis for the discussion in the section 5.1 *Discussion per period*. The chapter is followed and closed with the section 5.2 *Implications for practitioners*.

5.1 Discussion per period

2012-2013: Economic crisis, orientation and stabilization

This research confirmed that the value co-creation activities (Aarikka-Seenroos & Jaakolla, 2012) served as input for the business model value proposition innovation (Plé, et al., 2010; Ballantyne et al., 2010; Clauß et al., 2014). Next to that, the investigations revealed that changes in the customer segment of the business model have an impact on the business model value proposition. Future research might therefore investigate how changes in other business model elements, such as the choice of key partners, influence the business model value proposition innovation.

In line with the current literature, this research reinforced the suitability of the absorptive capacities construct for business model innovation (Plé et al., 2010; Clauß et al., 2014; Hakanen, 2014; Komulainen, 2014; Kranz et al., 2016; Stephens & Boucher, 2016) and business model *value proposition* innovation in particular. However, the study utilized qualitative data as semi-structured interviews, which limited the differentiation between the single absorptive capacity elements assimilation and transformation (Zahra & George, 2002).

The research contributes to the field of business model innovation through the identified impact of external conditions on the nature of the business model value proposition innovation process: In 2012-2013 Service Inc.'s ongoing merger process and the economic crisis induced the board of directors to observe the situation and to orientate. This 'distraction' from the product leadership aim in combination with the observing approach finally resulted in *incremental* innovation of the business model value proposition.

2014-2015: Breakthrough innovation and implementation

Likewise, the investigation of 2014-2015 supported the impact of the external conditions on the business model value proposition innovation. The research revealed that the external conditions directly influenced the evolution of Service Inc.'s learning process. The external situation caused intensified communication between project management and the board of directors, which substantiated the connection between operational and business development learning. Next to that and in contrast to 2012-2013, the deterioration of the operational situation in 2014-2015 triggered *disruptive* innovation. In line with Kranz et al. (2016) the events in this period showed that the emphasis on customer integration in combination with the severe external conditions challenged the organization to create a better offer, which resulted in the disruptive business model value proposition innovation.

This research furthermore contributes to the business strategy literature through the identified dependence of the strategic product leadership orientation on customer intimacy. It enhances the understanding of the strategic business orientations of Treacy and Wiersema (1995) and Day (2006) in the context of the service dominant literature. The findings show the support of the strategic customer intimacy orientation, which resonates with the principles of the service dominant logics, on Service Inc.'s aim to become a product leader. Within Service Inc.'s service oriented operational context, the company realized that it needed to be more customer oriented in order to advance towards the product leadership aim. Therefore, the raise of the customer intimacy orientation emphasizes the connection between the service dominant logic and the strategic orientation of the business model value proposition, which is in line with the investigations of Vargo and Lusch (2004) and Lusch et al. (2007).

2015-2016: Ongoing implementation

The previously observed influence of the external context on the business model value proposition innovation was also reinforced in 2015-2016. The economic situation began to relax, which was accompanied by the observation of incremental changes in the business model value proposition. Finally, the results indicate that severe circumstances or direct threats caused disruptive innovation, while beginning shifts in the context and favorable circumstances led to more incremental innovation of the business model value proposition.

Next to that, the findings enhanced the construct of the specific value proposition, which was based on Osterwalder et al.'s (2014) value proposition canvas. The original construct comprising the specific customer jobs, gains and pains was extended by a reflection of the business model value proposition. On the contrary, the business model value proposition was not refined through an additional reflection of the specific value proposition. Supporting the suitability of absorptive capacities (Zahra & George, 2002) the results showed that within business development learning the specific customer jobs, pains and gains were transformed into generalized versions, which were subsequently exploited for the innovation process.

Another issue that needs to be addressed is the use of the performance indicator based on the turnover of the preceding year. As the period of observation falls together with the historical event of the economic crisis of 2011-2012, the performance changes cannot solely be traced back to the innovation of the business model value proposition. It might be that the effects of the relaxing markets in 2013-2015 affected the increase of the turnover. Further research might therefore connect the changes in the business model value proposition with a measurement of process efficiency or effectiveness as well.

Finally, the investigations require replication in different cultural settings. It might be that the typically more horizontally orientated structure of Dutch organizations offer a different view on reality than for instance a German SME. At this, future research should also address the issue of learning on an organizational level. Organizations are an artificial construct, which are not able to learn. Instead, learning takes place on an individual level.

5.2 Implications for practitioners

This research shows that value co-creation processes serve as valuable source of information for strategic business development and business model innovation. It emphasizes that the connection between business development learning and operational learning is essential for the innovation of the business model value proposition. Subsequently, the communication between the board of directors and operations with respect to changing customer needs is essential for both incremental and disruptive business model value proposition innovation. The results furthermore elucidate that the quality and the focus of this communication matter. A stronger connection between the board of directors and the discussion of operational activities intensifies the knowledge base for business model value proposition innovation.

Besides, the analysis revealed that information leading to more disruptive innovation of the business model value proposition originated in the 'beginning' value co-creation activities (diagnosing needs, designing and producing the solution, organizing the process and resources), while information leading to more incremental innovation originated from 'following' activities (implementing the solution, managing value conflicts, organizing the process and resources).

Finally, the results indicate that severe circumstances or direct threats induced disruptive innovation, while beginning shifts in the context and favorable circumstances led to more incremental innovation of the business model value proposition.

6. Conclusion

This research investigated the process of how SMEs in a knowledge intensive business service context learn from their value co-creation activities and utilize the gathered information for the innovation process of their business model value proposition over time. The analysis of Service Inc.'s business model value proposition innovation process elucidated the unfolding and refinement of the process activities over time. It enabled the identification of all tentative framework elements within the scope of all bracketed observation periods. At this, the quality of the connections between the elements evolved during the investigated time-line, which depicted an ongoing increase of the element-interconnections. Finally, taking all research data into account, a generalized process of business model value proposition innovation was identified (see Figure 6: General process of business model value proposition innovation).

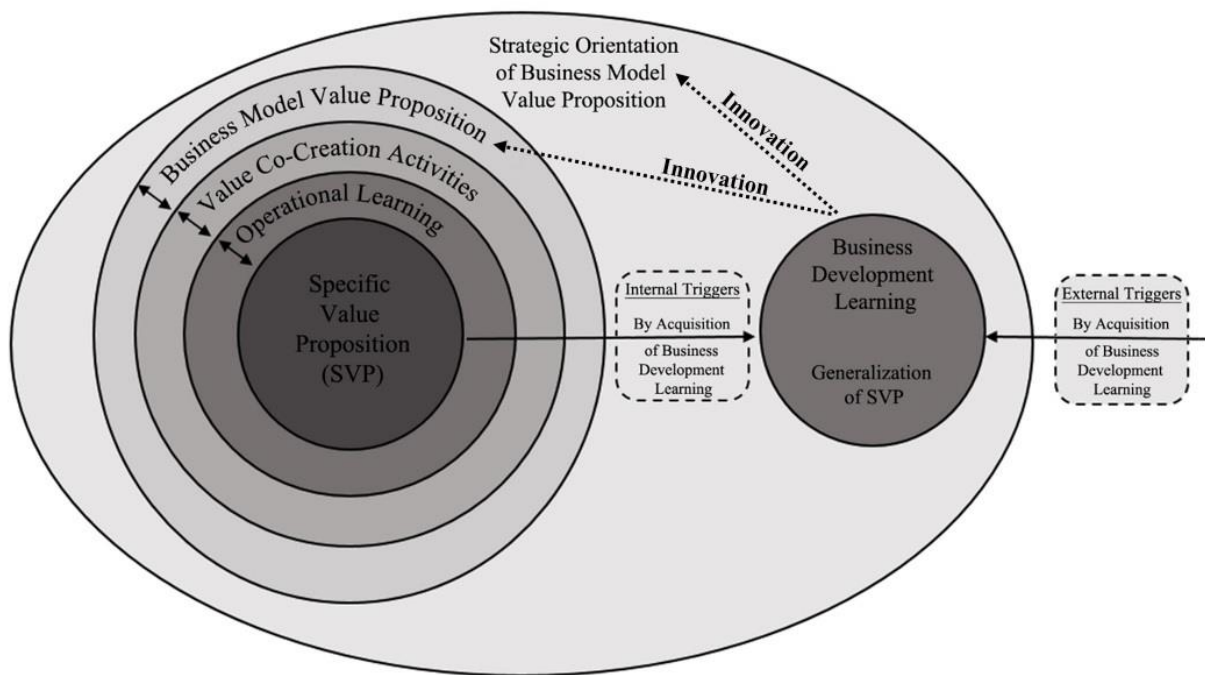


Figure 6. General process of business model value proposition innovation

The conclusions are summarized as follows: Value co-creation processes were recognized to be an essential element for the company's learning. Within all value co-creation activities of the tentative framework (see Figure 2) including the inductively formed phase diagnosing needs (acquisition) operational learning has been detected to take place. This learning process was confirmed to be composed of the absorptive capacity elements and followed the nonlinear activities of acquisition, assimilation, transformation and exploitation of relevant customer information. One result of operational learning was the exploitation of the information into a specialized offer to the customer: the specific value proposition. This offer to the customer defined the specific job, the customer had to execute, the specific gains he wanted to achieve and the specific pains that hindered or disturbed the completion or achievement of the aims. Moreover, the analysis revealed that the specific offer contained a reflection of the general business model value proposition elements, which connected the general value proposition with the specific offer and showed its function as red line. Besides, operational learning was found to include learnings from all value co-creation stages, taking more than just the specified offer into account.

By means of acquiring information from the specific value proposition, operational learning, the value co-creation activities, and other external sources as market observation, the

business development learning process was detected to analyze and transform the relevant data into applicable knowledge. The investigations uncovered that this learning process comprised the generalization of specific customer information and led to disruptive or incremental changes in the business model value proposition and its strategic orientation (exploitation of absorptive capacities).

“I think we use our experience to make our business proposition more sharp. So each time we do a project, we learned from it and we implemented it in the next one. Of course this is the way. I think it is called experience. But the more you are entering into specific areas, the more you understand the specific needs.” (Member of the board B)

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Appendix

A: Coding manual

Table A1. Coding of theme 1: Value Co-Creation Core Concepts

Code 1	Deductive (if not indicated in other codes)
Label	Diagnosing Needs: Value Co-Creation (Aarikka-Steenroos & Jaakkola, 2012, p. 20)
Definition	Identification of the needs and goals for the exchange.
Description	Reciprocal communication about the problem understanding: “Our understanding of your problem”. Responsibility of the supplier. Applied <u>while</u> the customer has agreed on the collaboration and getting a first offer. Not: Acquiring the customer.
Indicators	Identification of specific customer needs in order to define the project aims; mirroring already collected information and communicate with the customer about the alignment of the aims. “Project understanding”, “understanding“, „project starts”, “start”, “project phase”, “customer” “want”
Code 1A	Inductive
Label	Diagnosing needs: Acquisition
Definition	Identification of the needs and goals for the exchange before having started the official value co-creation process.
Description	Reciprocal communication about the problem understanding: “Our understanding of your problem”. Responsibility of the supplier. Applied <u>before</u> the customer has agreed on the collaboration and getting a first offer. Acquiring the customer.
Indicators	Identification of general customer needs in order to orient; getting into first contact with the customer before making an offer; convincing the customer that the supplier is the right choice for the job; sensing customer needs. “finding customers”, “market”, “new project developments”, “start”
Code 2	
Label	Designing and producing the solution (Aarikka-Steenroos & Jaakkola, 2012, p. 20)
Definition	Negotiation process to specify the problem and optimal value proposition for its resolution.
Description	Reciprocal communication about the problem alignment and agreement. Depending on information provided by the customer. Concerning the understanding of your problem; also concerning the execution of the service provided (development).
Indicators	Collaboration with the customer in the project and collaboration in order to refine the specific value proposition. “next project”, “next phase”, “management”, “deliverables”, “start ideas”
Code 3	
Label	Organizing the process and resources (Aarikka-Steenroos & Jaakkola, 2012, p. 21)
Definition	Organizing the problem solving process and required resources based upon the key activities for the process.
Description	Structuring the value co-creation process and identifying, activating, collecting and integrating necessary resources to make value co-creation possible.
Indicators	Assigning employees to the projects; planning the project and aligning resources; making a team; people that are involved. “people”, “need”, “team”, “involved”, “responsible”, “operations”
Code 4	
Label	Managing value conflicts (Aarikka-Steenroos & Jaakkola, 2012, p. 21)
Definition	Reconciling divergent views.
Description	Reciprocal communication about the problem understanding to align divergent views on value-in-use after the initial Diagnosing needs and Designing and producing the solution.

Table A1. (Continued)

Indicators	Communication of the project management with the customer concerning the customer satisfaction; discussing project related issues, misunderstandings or other operational problems; often including the account management; mile stone meetings; supplier internal information transfer from project management to account management.
Code 5	
Label	Implementing the solution (Aarikka-Steenroos & Jaakkola, 2012, p. 22)
Definition	Utilizing the produced solution to gain the expected value-in-use.
Description	Applying the produced solution in the reality of the customer's business operations in in order to harvest benefits. Responsibility of the customer.
Indicators	Project progress documents; Description of arising issues, success and risks. "Description of results", "Tests", "Test results", "Product quality details".

Table A2. Coding scheme of theme 2: Operational learning/ Absorptive Capacity

Code 6	
Label	Acquisition (Detection) (Zahra & George, 2002, p. 189)
Definition	The firm's capability to identify and acquire external knowledge that is critical to its operations. <u>Here:</u> The firm's capability to identify and acquire customer knowledge concerning the specific value proposition that is critical to the success of the value co-creation process.
Description	The ability and capacities of the firm used to recognize relevant customer needs and aims crucial to the success of the value co-creation process. Usually 'stored' in individuals and developed through individuals' experience. Used in communication with the customer. Applied before and while the customer has agreed on the collaboration.
Indicators	Negotiation of account or project management with the customer in order to find the customer needs and subsequently provide a good description of our understanding of your problem, project planning. "find out the need", "find new projects", "looking into", "feedback", "talk" "project", "customers", "understanding", "need", "experience", "asking feedback"
Code 7	
Label	Assimilation (Zahra & George, 2002, p. 189)
Definition	The firm's routines and processes that allow it to analyze, process, interpret and understand the information obtained from external sources. <u>Here:</u> The firm's routines and processes that allow it to analyze, process, interpret and understand the critical information obtained from the customer.
Description	Frequently used company-internal activities that aim at the in-depth understanding of detected customer information, which is found in individuals and in interactions of team members.
Indicators	Translating the gained customer information concerning the specific value proposition into usable knowledge; our understanding of your problem; mirroring the customer information. "translated from idea to proposal", "mirroring the information", "see what is necessary"
Code 8	
Label	Transformation (Zahra & George, 2002, p. 190)
Definition	The firm's capability to develop and refine the routines that facilitate combining existing knowledge and the newly acquired and assimilated knowledge. <u>Here:</u> The firm's capability to develop and refine the routines that facilitate combining existing knowledge about critical customer information and the newly acquired and assimilated knowledge.
Description	Connecting the prior experiences of the critical customer information with the added pieces.

Table A2. (Continued)

Indicators	Learning process of the project management; to improve the specific value proposition offered to the customer. Combining the existing knowledge base with the new pieces of information; Finding out that the customers need more; improving communication; “join”, “learned a lot about”, “inform”, “improve”, “we have realized, that”
Code 9	
Label	Exploitation (Zahra & George, 2002, p. 190)
Definition	The organizational capability to apply knowledge. <u>Here:</u> The organizational capability to apply the customer knowledge in order to form the specific value proposition.
Description	The ability and capacities of the firm used to develop a specific value proposition, which is found in individual and interaction activities.
Indicators	Final use of the information: Making a proposal or offer (for the next phase); changing the direction of the project. Writing the proposal. “Having a next offer”, “present our way of thinking” “project phase”, “make”, “next phase”, “use”, “solutions”, “communication”, “company”.

Table A3. Coding scheme of theme 3: Specific value proposition

Code 10	
Label	Specific Customer Jobs (Osterwalder et al., 2014, p. 9)
Definition	Description of what customers are trying to get done in their work and in their lives, as expressed in their own words. <u>Here:</u> Description of what customers are trying to get done in their organization, expressed in their own words. Depiction of customer needs as basis for the execution of the value co-creation process.
Description	Tasks customers want to or have to perform in order to reach an organizational aim. Viewed from a customer perspective and reflected by the supplier in the value co-creation process in order to form the specific value proposition.
Indicators	Description of the customer’s work. “sell something”, “your goal is to”, “you want...”, “another design”, “deliverables”, “new”.
Code 10A	<i>Inductive</i>
Label	Specific Products and Services
Definition	A list of all products and services the <u>specific</u> value proposition is built around.
Description	Description, listing and explanation of the services or products the supplying company offers to the customer in the specific offer or project.
Indicators	Specified version of the service offer (Split concept phase, additional loops, etc.) “We propose to apply a structured process to realise the project results. We suggest to work closely with [REDACTED] throughout the project, not only to inform of progress, but also to review results, and contribute to the development of the concept.”
Code 11	
Label	Specific Gains (Osterwalder et al., 2014, p. 9)
Definition	Description of the outcomes customers want to achieve or the concrete benefits they are seeking. <u>Here:</u> Description of the outcomes customers want to achieve by employing the value co-creation process with the supplier or the concrete benefits they are wishing to implement in their business operation.
Description	Characterization of the customers desire or wish he/she is not able to achieve without the support of the supplier’s value co-creation process.
Indicators	The final result of the work the supplier provides in the context of a specific project. “to reap the benefits of this new ingredient”, “to get the right dose per click” “necessity to be quicker”, “another design”, “building the prototype”
Code 11A	<i>Inductive</i>
Label	Specific Gain Creators
Definition	Description of how the company’s products and services create customer gains in a specific project.
Description	Explicit information concerning how the products or services of the supplying company create outcomes and benefits the customer expects, desires or would be surprised by in an actual and specific project.

Table A3. (Continued)

Indicators	Specific Project definition, Specific definition of deliverables: “Results”. “Definition of key success results”, “Deliverables: Robustness of the display...”
Code 12	
Label	Specific Pains (Osterwalder et al., 2014, p. 9)
Definition	Description of bad outcomes, risks, and obstacles related to customer jobs. <u>Here:</u> Description of bad outcomes, risks, and obstacles related to customer jobs, customers want to approach by engaging in the value co-creation process with the supplier.
Description	Anything that annoys the customer before, during and after trying to get a job done. Also a description of risks as potential bad outcomes related to getting a job done badly or not at all.
Indicators	Managing the risk, reducing uncertainties of product development in the context of a <u>specific</u> project. “to deal with uncertainties”, “risk management”
Code 12A	<i>Inductive</i>
Label	Specific Pain Relievers
Definition	Description of how the company’s products and services alleviate customer pains in a specific project.
Description	Explicit information concerning the reduction of things that annoy the customer in a specific project.
Indicators	Managing the risk, reducing uncertainties of <u>specific</u> product development project “Patent research”, “risk analysis” “what are your biggest concerns and risks?” “15% unforeseen budget included”

Table A4. Coding scheme of theme 4: Business development learning/ Absorptive capacity

Code 13	
Label	Acquisition (Zahra & George, 2002, p. 189)
Definition	The firm’s capability to identify and acquire external knowledge that is critical to its operations. <u>Here:</u> The firm’s capability to identify and acquire information from the specific value propositions relevant to the innovation of the business model value proposition.
Description	The ability and capacities of the firm used to recognize information relevant to the change in the business model value proposition concerning the themes or elements of this offer.
Indicators	Account management involved in the initial formation of the specific value proposition. “raise level of awareness at customers”, “cooperation between sales and operations”
Code 14	
Label	Assimilation (Zahra & George, 2002, p. 189)
Definition	The firm’s routines and processes that allow it to analyze, process, interpret and understand the information obtained from external sources. <u>Here:</u> The firm’s routines and processes that allow it to analyze, process, interpret and understand the critical information obtained from the specific value proposition.
Description	Frequently used company-internal activities that aim at the in-depth understanding of detected information, which is found in individuals and in interactions of team members.
Indicators	Negotiation process of account and project management about the specific value proposition or business development in the beginning, during and after the process of value co creation. “cooperation between sales and operations”, “shared opinion”, “discussion”, “what we should be as a company”, “analyze”, “account management is informed”
Code 15	
Label	Transformation (Zahra & George, 2002, p. 190)
Definition	The firm’s capability to develop and refine the routines that facilitate combining existing knowledge and the newly acquired and assimilated knowledge. <u>Here:</u> The firm’s capability to develop and refine the routines that facilitate combining existing knowledge about critical information from the specific value proposition and the newly acquired and assimilated knowledge.

Table A4. (Continued)

Description	Connecting the prior experiences of the critical specific value proposition information with the added pieces.
Indicators	Learning of the account management concerning changes in the business model value proposition. “learned a lot about”, “learn from a project”, “strategic discussion”, “making (a plan)”
Code 16	
Label	Exploitation (Zahra & George, 2002, p. 190)
Definition	The organizational capability to apply knowledge. Here: The organizational capability to apply the gained knowledge from the specific value proposition in order to form the business model value proposition.
Description	The ability and capacities of the firm used to change existing or develop new business model value propositions, which is found in individual and interaction activities.
Indicators	Application of the knowledge in order to change the business model value proposition. “We improve our proposition each time we do projects”, “made a plan”, “use our experience”, “shifting towards”, “learning from the project review”

Table A5. Coding scheme for theme 5: Business Model Value Proposition

Code 17	
Label	General Products and Services (Osterwalder et al., 2014, p. 8)
Definition	A list of all products and services the value proposition is built around.
Description	Description, listing and explanation of the services or products the supplying company offers to the customer in the business model value proposition.
Indicators	Product development and description of the product development process. “Product development”, “sell our hours”, “offering help”, “development phases”, “focussing on customer needs”, “agile approach”, “ideas must be transformed into products”, “share our thoughts”, “agile approach”, “flexibility”, “weekly burn rate instead of strict budget”, “zooming in the phases”, “not having all people on board but offering a network”, “two levels of communication with the customers”
Code 17A	<i>Inductive</i>
Label	General Customer Jobs
Definition	Description of what customers are trying to get done in their organization in general (e.g. in a customer segment), expressed in their own words. Depiction of general customer needs as basis for the execution of the value co-creation process.
Description	General tasks customers want to or have to perform in order to reach an organizational aim as part of the business model value proposition.
Indicators	End Manufacturing, “to develop a complete product”, “a new dosing system”
Code 18	
Label	General Gain Creators (Osterwalder et al., 2014, p. 8)
Definition	Description of how the company’s products and services create customer gains.
Description	Explicit information concerning how the products or services of the supplying company create outcomes and benefits the customer expects, desires or would be surprised by.
Indicators	Description of how the product development process creates benefits for the customer: Cost savings, time savings, good design, features, quality of the results, lower risks, flexibility (agile processing). “convince people about the quality you bring”, “be realistic”, “understanding and the fit”, “focus on cost and performance”, “risk reduction”, “managing risks”
Code 18A	<i>Inductive</i>
Label	General Gains
Definition	Description of the outcomes customers want to achieve by employing the value co-creation process with the supplier in general or the global benefits they are wishing to implement in their business operation.
Description	Characterization of the customers desire or wish he/she is not able to achieve without the support of the supplier’s value co-creation project or service.
Indicators	“Innovation”, “they don’t accept a standard, they want to be faster”, “results that customers expect”, “sustainability”, “easy user interface”, “improve the business case”

Table A5. (Continued)

Code 19	
Label	General Pain Relievers (Osterwalder et al., 2014, p. 8)
Definition	Description of how the company's products and services alleviate customer pains.
Description	Explicit information concerning the reduction of things that annoy the customer before, during or after the customers' attempts to complete a job or that prevents them from starting the work.
Indicators	Description of how the product development process deals with things that might lead to stress at the customer's side.
Code 19A	<i>Inductive</i>
Label	General Pains
Definition	Description of bad outcomes, risks, and obstacles related to customer jobs, customers want to approach by engaging in the value co-creation process with the supplier in a general manner.
Description	Anything that annoys the customer before, during and after trying to get a job done. Also a description of risks as potential bad outcomes related to getting a job done badly or not at all in a general view.
Indicators	Within the context of general developments the company identifies: "uncertainties", "risks", "they can't cover everything", "Products are getting more complex".
Code 20	
Label	Theme: Strategical direction: Operational Excellence (Treacy & Wiersema, 1995, pp. 50-51)
Definition	Delivering an acceptable product at the lowest possible cost including high customer convenience.
Description	Stressing on low costs meaning that the price of the product is low in comparison to the quality delivered. This also includes the absence of tangible or intangible costs as annoyance and irritation.
Indicators	"quality, costs and lead times", "it's about money, time and quality"
Code 21	
Label	Theme: Strategical direction: Product Leadership (Treacy & Wiersema, 1995, pp. 87-88)
Definition	A company displaying the ability and determination to make products that customers recognize as superior, that deliver real benefits and performance improvements.
Description	Product or service innovation, that redefines the state of the art of the market, serving the customer with real benefits and improvements.
Indicators	"to show that we r innovative", "way of handling projects changes", "complete service package", "one stop shop"
Code 22	
Label	Theme: Strategical direction: Customer Intimacy (Treacy & Wiersema, 1995, p. 126)
Definition	Offer of an extraordinary level of customer service, guidance, expertise and hand-holding from the supplier.
Description	Focusing intensively on the customer needs, while offering the customer an intangible service of support and guidance.
Indicators	"We understand you", "we sit down with the customer", "have competent expertise", "milestone meetings"

B: Units of analysis

Table B1. First unit of analysis

Step of analysis	First unit of analysis	Analytical results
Coding	Interview No. 1: Member of the board A Interview No. 2: Member of the board B Interview No. 3: Project manager A Interview No. 4: Project manager B Primary process	Identification of all tentative framework elements; Identification of additional value co-creation activities; Identification of triggers for business development learning; Identification of connections between the elements

Table B2. Second unit of analysis

Step of analysis	Second unit of analysis	Analytical results
Coding & identifying changes in the business model value proposition	Year plan 2012 Year plan 2013 Year plan 2014 Year plan 2015 Year plan 2016 Multiannual strategy 2015-2019	Identification of changes in the business model value proposition and its strategic orientation per year; Classification of the changes into incremental and disruptive innovation; Identification of internal and external triggers; Connection of changes with the performance indicator; Temporal bracketing of the observation period into three periods; Additional support for the identification of the framework elements;

Table B3. Third unit of analysis

Step of analysis	Third unit of analysis	Analytical results
Re-coding, final coding & construct corroboration	Interview No. 1: Member of the board A Interview No. 2: Member of the board B Interview No. 3: Project manager A Interview No. 4: Project manager B Primary process Year plan 2012 Year plan 2013 Year plan 2014 Year plan 2015 Year plan 2016 Multiannual strategy 2015-2019 Project A: Offer Project A: Project leaflet Project A: Status update (1) Project A: Status update (2) Project A: Project learnings Project B: Offer Project B: Customer company overview Project B: Project time line Project B: Kick-Off Presentation Project B: Project review (1) Project B: Project review (2) Project C: Offer phase 1+2 Project C: Offer phase 3 Project C: Offer phase 4 Project C: Final report phase 1 Project C: Final report phase 2 Project C: Status update phase 3 Project C: Project review (1) Project C: Project review (2) Promotion video	Corroboration of all previously identified framework elements; Corroboration and refinement of all previously identified connections between the framework elements; Identification of additional elements within the specific value proposition; Identification of a generalization process in business development learning; Data triangulation

Table B4. Fourth unit of analysis

Step of analysis	Fourth unit of analysis: 2012-2013	Analytical results
In-depth process analysis and pattern corroboration	Year plan 2012 Year plan 2013 Project A: Offer Project A: Project leaflet Project A: Status update (1) Project A: Status update (2) Project A: Project learnings Qualitative comparison Interview No. 1: Member of the board A Interview No. 2: Member of the board B Interview No. 4: Project manager B	Identification of all framework elements in 2012-2013; In-depth clarification of events, activities and processes concerning the business model value proposition innovation process in 2012-2013

Table B5. Fifth unit of analysis

Step of analysis	Fifth unit of analysis: 2014-2015	Analytical results
In-depth process analysis and pattern corroboration	Year plan 2013 Year plan 2014 Year plan 2015 Multiannual strategy 2015-2019 Project B: Offer Project B: Customer company overview Project B: Project time line Project B: Kick-Off Presentation Project B: Project review (1) Project B: Project review (2) Interview No. 2: Member of the board B Interview No. 3: Project manager A Interview No. 4: Project manager B	Identification of all framework elements in 2014-2015; In-depth clarification of events, activities and processes concerning the business model value proposition innovation process in 2014-2015

Table B6. Sixth unit of analysis

Step of analysis	Sixth unit of analysis: 2015-2016	Analytical results
In-depth process analysis and pattern corroboration	Primary process Year plan 2016 Project C: Offer phase 1+2 Project C: Offer phase 3 Project C: Offer phase 4 Project C: Final report phase 1 Project C: Final report phase 2 Project C: Status update phase 3 Project C: Project review (1) Project C: Project review (2) Promotion video Interview No. 2: Member of the board B Interview No. 3: Project manager A Interview No. 4: Project manager B	Identification of all framework elements in 2015-2016; In-depth clarification of events, activities and processes concerning the business model value proposition innovation process in 2015-2016

C: Analysis of the first unit

Occurrence (C1) and co-occurrence analysis (C2) based upon interviews and company-internal document.
Abbreviations used: L1 - Operational Learning; L2 - Business development learning.

C1: Identification of the elements

Table C1.1. Occurrence of the value co-creation core elements per document

	Designing and producing the solution	Diagnosing needs: Acquisition	Diagnosing needs: Value Co-Creation	Implementing the solution	Managing value conflicts	Organizing the process and resources	Totals
Interview No. 4: Member of the board B	33	16	23	1	5	19	97
Interview No. 3: Project management A	9	22	13	0	2	6	52
Interview No. 2: Project management B	6	9	11	0	6	6	38
Interview No. 1: Member of the board A	17	12	25	2	4	8	68
Primair process	2	1	1	1	1	1	7
Totals	67	60	73	4	18	40	262

Note: Occurrence in total numbers per document

Table C1.2. Construct co-occurrence of value co-creation elements

	Designing and producing the solution	Diagnosing needs: Acquisition	Diagnosing needs: Value Co-Creation	Implementing the solution	Managing value conflicts	Organizing the process and resources
Designing and Producing the Solution		2 (0,02)	2 (0,02)		4 (0,05)	27 (0,34)
Diagnosing Needs: Acquisition	2 (0,02) ^a		4 (0,03)		1 (0,01)	
Diagnosing Needs: Value Co-Creation	3 (0,02)	4 (0,03)			2 (0,02)	2 (0,02)
Implementing the Solution						
Managing Value Conflicts	4 (0,05)	1 (0,01)	2 (0,02)			1 (0,02)
Organizing the Process and Resources	27 (0,34)		2 (0,02)		1 (0,02)	

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table C1.3. Occurrence of the business model value proposition elements per document

	Gain creators	Pain relievers	Products and services	Totals
Interview No. 4: Member of the board B	12	9	74	95
Interview No. 3: Project management A	9	11	67	87
Interview No. 2: Project management B	14	21	87	122
Interview No. 1: Member of the board A	1	4	45	50
Primair process	1	1	1	3
Totals	37	46	274	357

Note: Occurrence in total numbers per document

Table C1.4. Construct co-occurrence of the business model value proposition

	Gain creators	Pain relievers	Products and services
Gain creators		2 (0,02)	7 (0,02)
Pain relievers	2 (0,02) ^a		5 (0,02)
Products and services	7 (0,02)	5 (0,02)	

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table C1.5. Occurrence of the strategic business model value proposition orientation per document

	Strategic customer intimacy orientation	Strategic operational excellence orientation	Strategic product leadership orientation	Totals
Interview No. 4: Member of the board B	16	2	7	25
Interview No. 3: Project management A	23	1	20	44
Interview No. 2: Project management B	7	0	17	24
Interview No. 1: Member of the board A	5	2	9	16
Primair process	1	0	1	2
Totals	52	5	54	111

Note: Occurrence in total numbers per document

Table C1.6. Construct co-occurrence of the strategic business model value proposition orientation

	Strategic customer intimacy orientation	Strategic operational excellence orientation	Strategic product leadership orientation
Strategic customer intimacy orientation			7 (0,07)
Strategic operational excellence orientation			1 (0,02)
Strategic product leadership orientation	7 (0,07) ^a	1 (0,02)	

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table C1.7. Occurrence of the specific value proposition per document

	Customer Jobs	Gains	Pains	Totals
Interview No. 4: Member of the board B	16	8	1	25
Interview No. 3: Project management A	8	3	16	27
Interview No. 2: Project management B	6	0	3	9
Interview No. 1: Member of the board A	5	5	3	13
Primair process	1	1	1	3
Totals	36	17	24	77

Note: Occurrence in total numbers per document

Table C1.8. Construct co-occurrence of the specific value proposition

	Customer jobs	Gains	Pains
Customer Jobs		5 (0,10)	1 (0,02)
Gains	5 (0,10) ^a		1 (0,03)
Pains	1 (0,02)	1 (0,03)	

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table C1.9. Occurrence of operational learning per document

	Operational Learning: Acquisition	Operational Learning: Assimilation	Operational Learning: Transformation	Operational Learning: Exploitation	Totals
Interview No. 4: Member of the board B	21	26	20	20	87
Interview No. 3: Project management A	9	13	14	5	41
Interview No. 2: Project management B	7	15	13	8	43
Interview No. 1: Member of the board A	17	15	15	13	60
Primair process	3	1	2	2	8
Totals	57	70	64	48	239

Note: Occurrence in total numbers per document

Table C1.10. Construct co-occurrence of operational learning

	Operational Learning: Acquisition	Operational Learning: Assimilation	Operational Learning: Exploitation	Operational Learning: Transformation
Operational Learning: Acquisition		19 (0,18)	2 (0,02)	5 (0,04)
Operational Learning: Assimilation	19 (0,18) ^a		7 (0,06)	15 (0,13)
Operational Learning: Exploitation	2 (0,02)	7 (0,06)		7 (0,07)
Operational Learning: Transformation	5 (0,04)	15 (0,13)	7 (0,07)	

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table C1.11. Occurrence of business development learning per document

	Business Development Learning: Acquisition	Business Development Learning: Assimilation	Business Development Learning: Exploitation	Business Development Learning: Transformation	Totals
Interview No. 4: Member of the board B	25	13	23	30	91
Interview No. 3: Project management A	10	15	21	28	74
Interview No. 2: Project management B	6	7	10	18	41
Interview No. 1: Member of the board A	3	3	11	7	24
Primair process	1	1	1	1	4
Totals	45	39	66	84	234

Note: Occurrence in total numbers per document

Table C1.12. Construct co-occurrence of business development learning

	Business Development Learning: Acquisition	Business Development Learning: Assimilation	Business Development Learning: Exploitation	Business Development Learning: Transformation
Business Development Learning: Acquisition		2 (0,02)	1 (0,01)	2 (0,02)
Business Development Learning: Assimilation	2 (0,02) ^a		1 (0,01)	31 (0,34)
Business Development Learning: Exploitation	1 (0,01)	1 (0,01)		18 (0,14)
Business Development Learning: Transformation	2 (0,02)	31 (0,34)	18 (0,14)	

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table C1.13. Occurrence of changes in customer segment per document

	Changes in the customer segment	Totals
Interview No. 4: Member of the board B	0	0
Interview No. 3: Project management A	7	7
Interview No. 2: Project management B	8	8
Interview No. 1: Member of the board A	3	3
Primair process	0	0
Totals	18	18

Note: Occurrence in total numbers per document

C2: Identification of co-occurrence of the framework elements

Table C2.1. Analysis scheme

	VCC	BMVP	SVP	Operational Learning	Business Development Learning	Strategic orientation of the BMVP
VCC	0	x	x	x	x	x
BMVP	-	0	x	x	x	x
SVP	-	-	0	x	x	x
Operational Learning	-	-	-	0	x	x
Business Development Learning	-	-	-	-	0	x
Strategic orientation of the BMVP	-	-	-	-	-	0

Abbreviations: x = Analyzed; 0 = Analyzed in C1; - = Not analyzed

Table C2.2. Co-occurrence of business model value proposition and specific value proposition

	Gain creators	Pain relievers	Products and services
Customer jobs	1 (0,01) ^a	1 (0,01)	1 (0,00)
Gains	1 (0,02)	1 (0,02)	1 (0,00)
Pains	2 (0,03)	4 (0,06)	3 (0,01)

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table C2.3. Co-occurrence of operational learning and business development learning

	Business Development Learning: Acquisition	Business Development Learning: Assimilation	Business Development Learning: Exploitation	Business Development Learning: Transformation
Operational Learning: Acquisition	8 (0,09) ^a			
Operational Learning: Assimilation	11 (0,11)	3 (0,03)		3 (0,02)
Operational Learning: Exploitation	5 (0,06)			
Operational Learning: Transformation	4 (0,04)	1 (0,01)		2 (0,01)

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table C2.4. Co-occurrence of value co-creation core activities and specific value proposition

	Gain creators	Pains relievers	Products and services
Designing and Producing the Solution	5 (0,05) ^a	3 (0,03)	11 (0,03)
Diagnosing Needs: Acquisition	2 (0,02)	3 (0,03)	17 (0,05)
Diagnosing Needs: Value Co-Creation	3 (0,03)	8 (0,07)	20 (0,06)
Implementing the Solution			1 (0,00)
Managing Value Conflicts	1 (0,02)	3 (0,05)	3 (0,01)
Organizing the Process and Resources	1 (0,02)	1 (0,01)	7 (0,02)

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table C2.5. Co-occurrence of value co-creation core activities and strategic business model value proposition orientation

	Strategic customer intimacy orientation	Strategic operational excellence orientation	Strategic product leadership orientation
Designing and Producing the Solution	10 (0,09) ^a		1 (0,01)
Diagnosing Needs: Acquisition	10 (0,10)	1 (0,02)	2 (0,02)
Diagnosing Needs: Value Co-Creation	4 (0,03)		
Implementing the Solution	1 (0,02)		
Managing Value Conflicts	5 (0,08)		2 (0,03)
Organizing the Process and Resources	6 (0,07)		1 (0,01)

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table C2.6. Co-occurrence of value co-creation core activities and specific value proposition

	Customer jobs	Gains	Pains
Designing and Producing the Solution	6 (0,06) ^a	6 (0,06)	2 (0,02)
Diagnosing Needs: Acquisition	3 (0,03)	2 (0,03)	3 (0,04)
Diagnosing Needs: Value Co-Creation	6 (0,06)	2 (0,02)	2 (0,02)
Implementing the Solution			
Managing Value Conflicts	1 (0,02)	1 (0,03)	2 (0,05)
Organizing the Process and Resources	2 (0,03)	1 (0,02)	

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table C2.7. Co-occurrence of value co-creation core activities and operational learning

	Operational Learning: Acquisition	Operational Learning: Assimilation	Operational Learning: Exploitation	Operational Learning: Transformation
Designing and Producing the Solution	12 (0,11) ^a	18 (0,15)	10 (0,10)	22 (0,20)
Diagnosing Needs: Acquisition	19 (0,19)	7 (0,06)	1 (0,01)	1 (0,01)
Diagnosing Needs: Value Co-Creation	14 (0,12)	20 (0,16)	20 (0,20)	12 (0,10)
Implementing the Solution				
Managing Value Conflicts	3 (0,04)	5 (0,06)	2 (0,03)	1 (0,01)
Organizing the Process and Resources	7 (0,08)	9 (0,09)	11 (0,14)	11 (0,14)

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table C2.8. Co-occurrence of value co-creation core activities and business development learning

	Business Development Learning: Acquisition	Business Development Learning: Assimilation	Business Development Learning: Exploitation	Business Development Learning: Transformation
Designing and Producing the Solution	13 (0,13) ^a			1 (0,01)
Diagnosing Needs: Acquisition	3 (0,03)			
Diagnosing Needs: Value Co-Creation	5 (0,09)	1 (0,01)	2 (0,01)	12 (0,10)
Implementing the Solution				
Managing Value Conflicts	11 (0,09)			2 (0,02)
Organizing the Process and Resources	11 (0,15)			

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table C2.9. Co-occurrence of business model value proposition and operational learning

	Operational Learning: Acquisition	Operational Learning: Assimilation	Operational Learning: Exploitation	Operational Learning: Transformation
Gain creators	5 (0,06) ^a	3 (0,03)	2(0,02)	
Pain relievers	5 (0,05)	4 (0,04)	5 (0,06)	
Products and services	8 (0,02)	5 (0,02)	15 (0,05)	16 (0,05)

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table C2.10. Co-occurrence of business model value proposition and business development learning

	Business Development Learning: Acquisition	Business Development Learning: Assimilation	Business Development Learning: Exploitation	Business Development Learning: Transformation
Gain creators	1 (0,01) ^a			
Pain relievers	1 (0,01)			
Products and services	2 (0,01)	5 (0,02)	42 (0,14)	28 (0,08)

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table C2.11. Co-occurrence of business model value proposition and its strategic orientation

	Strategic customer intimacy orientation	Strategic operational excellence orientation	Strategic product leadership orientation
Gain creators	2 (0,02) ^a	1 (0,02)	3 (0,03)
Pain relievers	5 (0,05)		2 (0,02)
Products and services	19 (0,06)	2 (0,01)	27 (0,09)

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table C2.12. Co-occurrence of specific value proposition and operational learning

	Customer jobs	Gains	Pains
Operational Learning: acquisition	4 (0,04) ^a	4 (0,06)	4 (0,05)
Operational Learning: assimilation	6 (0,06)	1 (0,01)	1 (0,01)
Operational Learning: exploitation	5 (0,06)	1 (0,02)	1 (0,01)
Operational Learning: transformation	4 (0,04)	4 (0,05)	3 (0,04)

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table C2.13. Co-occurrence of specific value proposition and business development learning

	Customer jobs	Gains	Pains
Business Development Learning: acquisition	3 (0,04) ^a		
Business Development Learning: assimilation			1 (0,02)
Business Development Learning: exploitation			2 (0,02)
Business Development Learning: transformation			3 (0,03)

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table C2.14. Co-occurrence of specific value proposition and strategic business model value proposition orientation

	Strategic customer intimacy orientation	Strategic operational excellence orientation	Strategic product leadership orientation
Customer jobs	2 (0,02) ^a		3 (0,03)
Gains	2 (0,03)		1 (0,01)
Pains	3 (0,04)		2 (0,03)

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table C2.15. Co-occurrence of operational learning and strategic business model value proposition orientation

	Strategic customer intimacy orientation	Strategic operational excellence orientation	Strategic product leadership orientation
Operational Learning: acquisition	7 (0,07) ^a		2 (0,02)
Operational Learning: assimilation	5 (0,04)		1 (0,01)
Operational Learning: exploitation	1 (0,01)		4 (0,04)
Operational Learning: transformation	2 (0,02)		2 (0,02)

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table C2.16. Co-occurrence of business development learning and strategic business model value proposition orientation

	Strategic customer intimacy orientation	Strategic operational excellence orientation	Strategic product leadership orientation
Business Development Learning: acquisition	6 (0,07) ^a		1 (0,01)
Business Development Learning: assimilation			1 (0,01)
Business Development Learning: exploitation	2 (0,02)		5 (0,04)
Business Development Learning: transformation	1 (0,01)		7 (0,05)

Note: Co-occurrence in total numbers

^a Correlation in brackets

D: Analysis of the second unit

Occurrence and co-occurrence analysis based upon the year plans.

Abbreviations used: BMVP – Business Model Value Proposition; SVP – Specific Value Proposition; VCC – Value Co-Creation; L1 - Operational Learning; L2 - Business development learning

Table D1. Occurrence of the tentative framework themes in 2012 per year plan document

	Year plan 2012	Year plan 2013	Year plan 2014	Year plan 2015	Year plan 2016	Multiple year strategy	Totals
2012 BMVP	31	1	0	0	0	0	32
2012 L1	0	0	0	0	0	0	0
2012 L2	30	1	0	0	0	0	31
2012 Other	10	1	0	0	0	0	11
2012 SVP	0	0	0	0	0	0	0
2012 VCC elements	2	1	0	0	0	0	3
Totals	73	4	0	0	0	0	77

Note: Occurrence in total numbers per document

Table D2. Occurrence of the tentative framework elements in 2012 per year plan document

	Year plan 2012	Year plan 2013	Year plan 2014	Year plan 2015	Year plan 2016	Multiple year strategy	Totals
2012 Customer segment	7	0	0	0	0	0	7
2012 Customer jobs	0	0	0	0	0	0	0
2012 Designing and producing the Solution	0	0	0	0	0	0	0
2012 Diagnosing needs (acquisition)	1	1	0	0	0	0	2
2012 Diagnosing needs (value co-creation)	1	0	0	0	0	0	1
2012 Gains	0	0	0	0	0	0	0
2012 General customer jobs	3	0	0	0	0	0	3
2012 General gain creators	9	0	0	0	0	0	9
2012 General gains	1	0	0	0	0	0	1
2012 General pain relievers	5	0	0	0	0	0	5
2012 General pains	1	0	0	0	0	0	1
2012 General products and services	9	1	0	0	0	0	10
2012 Operational learning: acquisition	0	0	0	0	0	0	0

Note: Occurrence in total numbers per document

Table D2. (Continued)

	Year plan 2012	Year plan 2013	Year plan 2014	Year plan 2015	Year plan 2016	Multiple year strategy	Totals
2012 Operational learning: Assimilation	0	0	0	0	0	0	0
2012 Operational learning: Exploitation	0	0	0	0	0	0	0
2012 Operational learning: Transformation	0	0	0	0	0	0	0
2012 Business development learning: Acquisition	0	0	0	0	0	0	0
2012 Business development learning: Assimilation	0	0	0	0	0	0	0
2012 Business development learning: Exploitation	13	0	0	0	0	0	13
2012 Business development learning: Transformation	17	1	0	0	0	0	18
2012 Managing value conflicts	0	0	0	0	0	0	0
2012 Organizing process and resources	0	0	0	0	0	0	0
2012 Pains	0	0	0	0	0	0	0
2012 Strategic product leadership orientation	7	0	0	0	0	0	0
2012 Results and expectations (turnover)	2	1	0	0	0	0	3
2012 Strategic product leadership orientation	1	0	0	0	0	0	1
2012 Triggers for change	1	0	0	0	0	0	1
Totals	78	4	0	0	0	0	82

Note: Occurrence in total numbers per document

Table D3. Co-occurrence of extended business model value proposition and business development learning in 2012

	2012 Business Development Learning: Acquisition	2012 Business Development Learning: Assimilation	2012 Business Development Learning: Exploitation	2012 Business Development Learning: Transformation
2012 General customer jobs				3 (0,17)
2012 General gain creators			5 (0,29) ^a	4 (0,17)
2012 General gains				
2012 General pain relievers			1 (0,06)	4 (0,21)
2012 General pains				1 (0,06)
2012 General products and services			4 (0,21)	6 (0,27)
2012 Strategic product leadership orientation			3 (0,18)	3 (0,14)
2012 Strategic customer intimacy orientation			1 (0,08)	

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table D4. Occurrence of the tentative framework themes in 2012 per year plan document

	Year plan 2012	Year plan 2013	Year plan 2014	Year plan 2015	Year plan 2016	Multiple year strategy	Totals
2013 BMVP	0	28	5	0	0	0	33
2013 L1	0	0	0	0	0	0	0
2013 L2	0	28	3	0	0	0	31
2013 Other	0	13	2	0	0	0	15
2013 SVP	0	0	0	0	0	0	0
2013 VCC elements	0	2	3	0	0	0	5
Totals	0	21	13	0	0	0	84

Note: Occurrence in total numbers per document

Table D5. Occurrence of the tentative framework elements in 2013 per year plan document

	Year plan 2012	Year plan 2013	Year plan 2014	Year plan 2015	Year plan 2016	Multiple year strategy	Totals
2013 Customer jobs	0	0	0	0	0	0	0
2013 Customer segment	0	9	1	0	0	0	10
2013 Designing and producing the Solution	0	0	0	0	0	0	0
2013 Diagnosing needs (acquisition)	0	2	3	0	0	0	5
2013 Diagnosing needs (value co-creation)	0	0	0	0	0	0	0
2013 Gains	0	0	0	0	0	0	0
2013 General customer jobs	0	3	0	0	0	0	3

Note: Occurrence in total numbers per document

Table D5. (Continued)

	Year plan 2012	Year plan 2013	Year plan 2014	Year plan 2015	Year plan 2016	Multiple year strategy	Totals
2013 General gain creators	0	3	0	0	0	0	4
2013 General gains	0	2	0	0	0	0	2
2013 General pain relievers	0	3	0	0	0	0	3
2013 General pains	0	0	0	0	0	0	0
2013 General products and services	0	5	2	0	0	0	7
2013 Operational learning: Acquisition	0	0	0	0	0	0	0
2013 Operational learning: Assimilation	0	0	0	0	0	0	0
2013 Operational learning: Exploitation	0	0	0	0	0	0	0
2013 Operational learning: Transformation	0	0	0	0	0	0	0
2013 Business development learning: Acquisition	0	1	0	0	0	0	0
2013 Business development learning: Assimilation	0	0	0	0	0	0	0
2013 Business development learning: Exploitation	0	14	3	0	0	0	17
2013 Business development learning: Transformation	0	13	0	0	0	0	0
2013 Managing value conflicts	0	0	0	0	0	0	0
2013 Organizing process and resources	0	0	0	0	0	0	0
Totals	11	56	10	0	0	0	77

Note: Occurrence in total numbers per document

Table D6. Co-occurrence of extended business model value proposition and business development learning in 2013

	2013 Business Development Learning: Acquisition	2013 Business Development Learning: Assimilation	2013 Business Development Learning: Exploitation	2013 Business Development Learning: Transformation
2013 General customer jobs				3 (0,23)
2013 General gain creators			2 (0,11)	2 (0,13)
2013 General gains				1 (0,07)
2013 General pain relievers			1 (0,05)	2 (0,14)
2013 General pains				
2013 General products and services			3 (0,14)	3 (0,18)
2013 Strategic product leadership orientation			1 (0,05)	2 (0,14)
2013 Strategic customer intimacy orientation	1 (0,07) ^a		11 (0,55)	1 (0,04)

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table D7. Occurrence of the tentative framework themes in 2014 per year plan document

	Year plan 2012	Year plan 2013	Year plan 2014	Year plan 2015	Year plan 2016	Multiple year strategy	Totals
2014 BMVP	0	0	32	1	0	99	140
2014 L1	0	0	1	5	0	5	11
2014 L2	0	0	33	8	0	101	142
2014 Other	0	0	13	3	0	19	35
2014 SVP	0	0	0	0	0	0	0
2014 VCC elements	0	0	3	1	0	22	26
Totals	0	0	82	26	0	246	354

Note: Occurrence in total numbers per document

Table D8. Occurrence of the tentative framework elements in 2014 per year plan document

	Year plan 2012	Year plan 2013	Year plan 2014	Year plan 2015	Year plan 2016	Multiple year strategy	Totals
2014 Customer jobs	0	0	0	0	0	0	0
2014 Customer segment	0	0	8	0	0	14	22
2014 Designing and producing the Solution	0	0	0	1	0	5	6
2014 Diagnosing needs (acquisition)	0	0	3	0	0	9	12
2014 Diagnosing needs (value co-creation)	0	0	0	0	0	6	6
2014 Gains	0	0	0	0	0	0	0
2014 General customer jobs	0	0	2	0	0	9	11

Note: Occurrence in total numbers per document

Table D8. (Continued)

	Year plan 2012	Year plan 2013	Year plan 2014	Year plan 2015	Year plan 2016	Multiple year strategy	Totals
2014 General gain creators	0	0	8	2	0	19	29
2014 General gains	0	0	0	0	0	6	6
2014 General pains	0	0	1	0	0	1	2
2014 General pain relievers	0	0	3	2	0	13	18
2014 General products and services	0	0	9	4	0	40	53
2014 Operational learning: Assimilation	0	0	0	0	0	1	1
2014 Operational learning: Exploitation	0	0	0	4	0	1	5
2014 Operational learning: Transformation	0	0	1	0	0	1	2
2014 Operational learning: Acquisition	0	0	0	1	0	2	3
2014 Business development learning: Acquisition	0	0	2	0	0	1	3
2014 Business development learning: Assimilation	0	0	0	0	0	1	1
2014 Business development learning: Exploitation	0	0	19	5	0	45	69
2014 Business development learning: Transformation	0	0	12	3	0	54	69
2014 Managing value conflicts	0	0	0	0	0	2	2
2014 Organizing process and resources	0	0	0	0	0	3	3

Note: Occurrence in total numbers per document

Table D8. (Continued)

	Year plan 2012	Year plan 2013	Year plan 2014	Year plan 2015	Year plan 2016	Multiple year strategy	Totals
2014 Pains	0	0	0	0	0	0	0
2014 Results and expectations turnover	0	0	4	3	0	1	8
2014 Strategic customer intimacy orientation	0	0	2	0	0	11	13
2014 Strategic product leadership orientation	0	0	12	3	0	11	26
2014 Triggers for change	0	0	1	0	0	5	6
Totals	0	0	87	28	0	261	376

Note: Occurrence in total numbers per document

Table D9. Co-occurrence of extended business model value proposition and business development learning in 2014

	2014 Business Development Learning: Acquisition	2014 Business Development Learning: Assimilation	2014 Business Development Learning: Exploitation	2014 Business Development Learning: Transformation
2014 General customer jobs				11 (0,16)
2014 General gain creators	1 (0,03) ^a		11 (0,13)	16 (0,20)
2014 General gains				5 (0,07)
2014 General pain relievers				2 (0,03)
2014 General pains			10 (0,13)	9 (0,12)
2014 General products and services			33 (0,37)	18 (0,17)
2014 Strategic product leadership orientation	1 (0,07)		11 (0,55)	5 (0,06)
2014 Strategic customer intimacy orientation	1 (0,07)		18 (0,23)	7 (0,08)

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table D10. Co-occurrence of extended business model value proposition and value co-creation activities in 2014

	2014 Designing and producing the solution	2014 Diagnosing needs (acquisition)	2014 Diagnosing needs (value co-creation)	2014 Managing value conflicts	2014 Organizing process and resources
2014 General customer jobs					
2014 General gain creators	2 (0,06) ^a				
2014 General gains					
2014 General pain relievers					
2014 General pains					
2014 General products and services	3 (0,05)	2 (0,03)	2 (0,04)		3 (0,06)
2014 Strategic product leadership orientation	2 (0,12)	1 (0,04)	1 (0,06)	2 (0,15)	2 (0,14)
2014 Strategic customer intimacy orientation		1 (0,03)			

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table D11. Occurrence of the tentative framework themes in 2015 per year plan document

	Year plan 2012	Year plan 2013	Year plan 2014	Year plan 2015	Year plan 2016	Multiple year strategy	Totals
2015 BMVP	0	0	0	30	0	1	31
2015 L1	0	0	0	1	0	0	1
2015 L2	0	0	0	31	0	0	31
2015 Other	0	0	0	18	0	0	18
2015 SVP	0	0	0	0	0	0	0
2015 VCC elements	0	0	0	5	0	0	5
Totals	0	0	0	85	0	1	86

Note: Occurrence in total numbers per document

Table D12. Occurrence of the tentative framework elements in 2015 per year plan document

	Year plan 2012	Year plan 2013	Year plan 2014	Year plan 2015	Year plan 2016	Multiple year strategy	Totals
2015 Customer jobs	0	0	0	0	0	0	0
2015 Customer segment	0	0	0	15	0	0	15
2015 Designing and producing the Solution	0	0	0	1	0	0	1
2015 Diagnosing needs (acquisition)	0	0	0	4	0	0	4
2015 Gains	0	0	0	0	0	0	0
2015 General customer jobs	0	0	0	2	0	0	2
2015 General gains	0	0	0	1	0	0	1

Note: Occurrence in total numbers per document

Table D12. (Continued)

	Year plan 2012	Year plan 2013	Year plan 2014	Year plan 2015	Year plan 2016	Multiple year strategy	Totals
2015 General pain relievers	0	0	0	2	0	1	3
2015 General pains	0	0	0	0	0	0	0
2015 General products and services	0	0	0	17	0	0	17
2015 General gain creators	0	0	0	4	0	0	4
2015 Operational learning: Acquisition	0	0	0	1	0	0	1
2015 Operational learning: Assimilation	0	0	0	0	0	0	0
2015 Operational learning: Exploitation	0	0	0	0	0	0	0
2015 Operational learning: Transformation	0	0	0	0	0	0	0
2015 Business development learning: Exploitation	0	0	0	15	0	0	15
2015 Business development learning: Acquisition	0	0	0	0	0	0	0
2015 Business development learning: Assimilation	0	0	0	0	0	0	0
2015 Business development learning: Transformation	0	0	0	16	0	0	16
2015 Pains	0	0	0	0	0	0	0
2015 Results and expectations (turnover)	0	0	0	3	0	0	3
2015 Strategic customer intimacy orientation	0	0	0	0	0	0	0

Note: Occurrence in total numbers per document

Table D12. (Continued)

	Year plan 2012	Year plan 2013	Year plan 2014	Year plan 2015	Year plan 2016	Multiple year strategy	Totals
2015 Strategic product leadership orientation	0	0	0	7	0	0	7
2015 Triggers for change	0	0	0	0	0	0	0
Totals	0	0	0	88	0	1	89

Note: Occurrence in total numbers per document

Table D13. Co-occurrence of extended business model value proposition and business development learning in 2015

	2015 Business Development Learning: Acquisition	2015 Business Development Learning: Assimilation	2015 Business Development Learning: Exploitation	2015 Business Development Learning: Transformation
2015 General customer jobs				2 (0,13)
2015 General gains				1 (0,06)
2015 General pain relievers	1 (0,06) ^a			1 (0,06)
2015 General pains				
2015 General products and services	10 (0,45)			7 (0,27)
2015 General gain creators	3 (0,19)			1 (0,05)
2015 Strategic customer intimacy orientation				
2015 Strategic product leadership orientation	3 (0,16)			3 (0,15)

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table D14. Occurrence of the tentative framework themes in 2016 per year plan document

	Year plan 2012	Year plan 2013	Year plan 2014	Year plan 2015	Year plan 2016	Multiple year strategy	Totals
2016 BMVP	0	0	0	1	27	2	30
2016 L1	0	0	0	0	0	0	0
2016 L2	0	0	0	0	27	0	27
2016 Other	0	0	0	0	4	0	4
2016 SVP	0	0	0	0	0	0	0
2016 VCC elements	0	0	0	0	2	0	2
Totals	0	0	0	1	60	2	63

Note: Occurrence in total numbers per document

Table D15. Occurrence of the tentative framework elements in 2016 per year plan document

	Year plan 2012	Year plan 2013	Year plan 2014	Year plan 2015	Year plan 2016	Multiple year strategy	Totals
2016 Triggers for change	0	0	0	0	0	0	0
2016 Customer jobs	0	0	0	0	0	0	0
2016 Customer segment	0	0	0	0	1	0	1
2016 Designing and producing the Solution	0	0	0	0	1	0	1
2016 Diagnosing needs (acquisition)	0	0	0	0	2	0	2
2016 Diagnosing needs (value co-creation)	0	0	0	0	1	0	1
2016 Gains	0	0	0	0	0	0	0
2016 General customer jobs	0	0	0	0	0	0	0
2016 General gain creators	0	0	0	0	7	0	7
2016 General gains	0	0	0	0	0	0	0
2016 General pain relievers	0	0	0	0	7	1	8
2016 General pains	0	0	0	0	0	0	0
2016 General products and services	0	0	0	1	7	1	9
2016 Operational learning: Acquisition	0	0	0	0	0	0	0
2016 Operational learning: Assimilation	0	0	0	0	0	0	0
2016 Operational learning: Exploitation	0	0	0	0	0	0	0
2016 Operational learning: Transformation	0	0	0	0	0	0	0
2016 Business development learning: Acquisition	0	0	0	0	1	0	1

Note: Occurrence in total numbers per document

Table D15. (Continued)

	Year plan 2012	Year plan 2013	Year plan 2014	Year plan 2015	Year plan 2016	Multiple year strategy	Totals
2016 Business development learning: Assimilation	0	0	0	0	0	0	0
2016 Business development learning: Exploitation	0	0	0	0	23	0	23
2016 Business development learning: Transformation	0	0	0	0	3	0	3
2016 Pains	0	0	0	0	0	0	0
2016 Results and expectations (turnover)	0	0	0	0	3	0	3
2016 Strategic customer intimacy orientation	0	0	0	0	4	0	4
2016 Strategic product leadership orientation	0	0	0	0	5	0	5
2016 Triggers for change	0	0	0	0	0	0	0
Totals	0	0	0	1	65	2	68

Note: Occurrence in total numbers per document

Table D16. Co-occurrence of extended business model value proposition and business development learning in 2016

	2016 Business Development Learning: Acquisition	2016 Business Development Learning: Assimilation	2016 Business Development Learning: Exploitation	2016 Business Development Learning: Transformation
2016 General customer jobs				
2016 General gain creators			5 (0,20) ^a	1 (0,11)
2016 General gains				
2016 General pain relievers			7 (0,29)	
2016 General pains			7 (0,28)	
2016 General products and services				

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table D16. (Continued)

	2016 Business Development Learning: Acquisition	2016 Business Development Learning: Assimilation	2016 Business Development Learning: Exploitation	2016 Business Development Learning: Transformation
2016 Strategic customer intimacy orientation			4 (0,17) ^a	
2016 Strategic product leadership orientation			3 (0,12)	2 (0,33)

Note: Co-occurrence in total numbers

^a Correlation in brackets

E: Analysis of the second unit: Listing differences and similarities

Analysis of changes in the business model value proposition per year

Abbreviations used: BMVP – Business Model Value Proposition

Table E1. Basis evaluation of the business model value proposition in 2012

Year	Element of the BMVP	Similarities	Differences
2012	General Products and Services	Product Development and Project management service Focus of the Service	-
	General Customer Jobs	Complex products Innovation of Products	-
	General Gain Creators	Creation of Value Quality of the process	-
	General Gains	Sustainable products	-
	General Pain Relievers	Mitigating uncertainties, structured approach	-
	General Pains	Complexity, uncertainty	-
	Direction Product Leadership	Become a leading Dutch partner	-
	Direction Customer Intimacy	-	-

Table E2. Differences and similarities the business model value proposition in 2013

Year	Element of the BMVP	Similarities	Differences
2013	General Products and Services	Product Development and Project management service Focus of the Service	Shift towards another phase within the scope of the product development service
	General Customer Jobs	Complex products Innovation of Products	-
	General Gain Creators	Creation of Value Quality of the process	Focusing more on quality of the work
	General Gains	Sustainable products	-
	General Pain Relievers	Mitigating uncertainties, structured approach	-
	General Pains	Complexity, uncertainty	-
	Direction Product Leadership	Become the leading Dutch partner.	Become part of the leading partners; Measurement of customer satisfaction
	Direction Customer Intimacy		Focusing more on the relation to the customer

Table E3. Differences and similarities the business model value proposition in 2014

Year	Element of the BMVP	Similarities	Differences
2014	General Products and Services	Product Development and Project management service Focus of the Service	Change in focus of the service; Shift towards another phase within the scope of the product development service
	General Customer Jobs	Complex products Innovation of Products	Systems approach; Technology Development
	General Gain Creators	Creation of Value Focus on quality of the process	Stronger Focus on the quality of the process; Flexibility; Independence; Efficiency;
	General Gains	Sustainable products	High volume, low cost high tech products; Focus on ease of use; Focus on technology instead of products
	General Pain Relievers	Mitigating uncertainties, structured approach	Stronger focus on mitigating uncertainties and mastering quality issues
	General Pains	Complexity, uncertainty	Stronger restrictions and product requirements; Even more complexity
	Direction Product Leadership	Become part of the leading partners; Measurement of customer satisfaction.	Stronger focus on Efficiency
	Direction Customer Intimacy	Focusing on the relation to the customer.	Focus on project consultancy and project management; Providing a 'care package'; Mastering quality issues; Broadening Competences 'A-one-stop-shop'

Table E4. Differences and similarities the business model value proposition in 2015

Year	Element of the BMVP	Similarities	Differences
2015	General Products and Services	Product Development and Project management service Changed focus of the Service Closer focus on the front end of product development.	-
	General Customer Jobs	Complex products Innovation of Products Systems approach Technology development	-
	General Gain Creators	Creation of Value Focus on quality of the process Flexibility Independence Efficiency	Focus on a more result driven approach
	General Gains	Sustainable products High volume, low cost high tech products Focus on Ease of Use Focus on technology instead of products	-
	General Pain Relievers	Mitigating uncertainties, structured approach Mastering quality issues.	-
	General Pains	Increased complexity, uncertainty Stronger restrictions and product requirements	-
	Direction Product Leadership	Become part of the leading partners; Measurement of customer satisfaction. Focus on efficiency	Focus on a more result driven approach
	Direction Customer Intimacy	Focusing on the relation to the customer Focus on project consultancy and project management Providing a 'care package' Mastering quality issues Broadening Competences 'A-one-stop-shop'	-

Table E5. Differences and similarities the business model value proposition in 2016

Year	Element of the BMVP	Similarities	Differences
2016	General Products and Services	Product Development and Project management service Changed focus of the Service Closer focus on the front end of product development.	Stronger focus on Consultancy Services
	General Customer Jobs	Complex products Innovation of Products Systems approach Technology development	-
	General Gain Creators	Creation of Value Focus on quality of the process Flexibility Independence Efficiency Result driven approach	Stronger Focus on the quality of the process; Seniority
	General Gains	Sustainable products High volume, low cost high tech products Focus on Ease of Use Focus on technology instead of products	-
	General Pain Relievers	Mitigating uncertainties, structured approach Mastering quality issues.	Focusing more on mitigating uncertainties by raising awareness of risk
	General Pains	Increased complexity, uncertainty Stronger restrictions and product requirements	-
	Direction Product Leadership	Become part of the leading partners; Measurement of customer satisfaction. Focus on efficiency Result driven approach	Stronger Focus on the quality of the process
	Direction Customer Intimacy	Focusing on the relation to the customer Focus on project consultancy and project management Providing a 'care package' Mastering quality issues Broadening Competences 'A-one-stop-shop'	Stressing on seniority; Focusing more on the 'care package'

F: Data triangulation

Table F1. Data Triangulation of all tentative and inductive framework elements

	Inter-views	Primair process	Project 2012-2013	Project 2014-2015	Project 2015-2016	Video	Year plans	Totals
Designing and producing the solution	66	2	5	81	71	2	8	235
Diagnosing needs (acquisition)	60	1	1	1	0	0	25	88
Diagnosing needs (value co-creation)	72	1	19	46	26	0	8	172
General customer jobs	21	0	0	0	0	3	36	97
General gain creators	125	1	9	0	0	12	53	200
General gains	23	0	0	0	0	2	10	35
General pain relievers	54	1	3	0	0	3	36	97
General pains	12	0	0	0	0	2	3	17
General products and services	166	1	4	0	4	2	96	273
Implementing the solution	3	1	4	14	62	2	0	86
Operational learning: Acquisition	54	3	3	19	3	0	4	86
Operational learning: Assimilation	68	1	9	14	7	0	1	100
Operational learning: Exploitation	46	2	29	93	121	0	5	296
Operational learning: Transformation	63	2	8	59	76	0	2	210
Business development learning: Acquisition	44	1	0	74	45	0	5	169
Business development learning: Assimilation	38	1	13	0	0	0	1	53
Business development learning: Exploitation	65	1	0	3	5	0	137	211

Note: Occurrence in total numbers per document category

Table F1. (Continued)

	Inter-views	Primair process	Project 2012-2013	Project 2014-2015	Project 2015-2016	Video	Year plans	Totals
Business development learning: Transformation	86	1	16	8	4	0	119	234
Managing value conflicts	19	1	12	26	2	0	2	62
Organizing process and resources	39	1	14	77	97	0	3	231
Specific customer jobs	12	1	8	11	14	0	0	46
Specific gain creator	0	0	10	47	81	0	0	138
Specific gains	7	1	8	46	48	0	0	110
Specific pain reliever	0	0	8	18	25	0	0	51
Specific pains	2	1	2	20	10	0	0	35
Specific products and service	6	0	5	27	37	0	0	75
Strategic customer intimacy orientation	60	1	0	36	32	1	21	151
Strategic operational excellence orientation	5	0	0	1	0	0	0	6
Strategic product leadership orientation	62	1	1	2	4	3	59	132
Totals	1278	27	191	723	774	32	617	3642

Note: Occurrence in total numbers per document category

G: Analysis of the third unit

Occurrence and co-occurrence analysis based upon the whole data set.

Abbreviations used: BMVP – Business Model Value Proposition; SVP – Specific Value Proposition; VCC – Value Co-Creation; L1 - Operational Learning; L2 - Business development learning

G1: Identification of the elements

Table G1.1. Occurrence of the value co-creation activities within the whole dataset

	Designing and producing the solution	Diagnosing needs: Acquisition	Diagnosing needs: Value Co-Creation	Implementing the solution	Managing value conflicts	Organizing the process and resources
Designing and Producing the Solution		3 (0,01)	19 (0,05)	8 (0,03)	11 (0,04)	94 (0,25)
Diagnosing Needs: Acquisition	3 (0,01) ^a		10 (0,04)		2 (0,01)	
Diagnosing Needs: Value Co-Creation	19 (0,05)	10 (0,04)		2 (0,01)	3 (0,01)	10 (0,03)
Implementing the Solution	8 (0,03)		2 (0,01)			4 (0,01)
Managing Value Conflicts	11 (0,04)	2 (0,01)	3 (0,01)			16 (0,06)
Organizing the Process and Resources	94 (0,25)		10 (0,03)	4 (0,01)	16 (0,06)	

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table G1.2. Occurrence of the business model value proposition within the whole dataset

	General customer jobs	General gain creators	General gains	General pain relievers	General pains	General products and services	Strategic customer intimacy orientation	Strategic product leadership orientation
General customer jobs		3 (0,01)	1 (0,04)	5 (0,04)	4 (0,07)	4 (0,01)	4 (0,02)	4 (0,02)
General gain creators	3 (0,01) ^a		2 (0,01)	5 (0,02)	2 (0,01)	12 (0,03)	26 (0,08)	40 (0,14)
General gains	1 (0,01)	2 (0,01)		1 (0,01)	1 (0,02)		1 (0,01)	3 (0,02)
General pain relievers	5 (0,04)	5 (0,02)	1 (0,01)		4 (0,04)	5 (0,01)	7 (0,03)	5 (0,02)
General pains	4 (0,07)	2 (0,01)	1 (0,02)	4 (0,04)			2 (0,01)	

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table G1.2. (Continued)

	General customer jobs	General gain creators	General gains	General pain relievers	General pains	General products and services	Strategic customer intimacy orientation	Strategic product leadership orientation
General products and services	4 (0,01) ^a	12(0,03)		5 (0,01)			11(0,03)	22 (0,06)
Strategic customer intimacy orientation	4 (0,02)	26(0,08)	1 (0,01)	7 (0,03)	2 (0,01)	11(0,03)		12(0,04)
Strategic customer intimacy orientation	4 (0,02)	40(0,14)	3 (0,02)	5 (0,02)		22(0,06)	12(0,04)	

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table G1.3. Occurrence of strategic business model value proposition orientation per document

	Strategic customer intimacy orientation	Strategic operational excellence orientation	Strategic product leadership orientation	Totals
Interview No. 4: Member of the board B	16	2	7	25
Interview No. 3: Project management A	23	1	20	44
Interview No. 2: Project management B	7	0	17	24
Interview No. 1: Member of the board A	5	2	9	16
Primair process	1	0	1	2
Totals	52	5	54	111

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table G1.4. Construct co-occurrence of business development learning within the whole dataset

	Strategic customer intimacy orientation	Strategic product leadership orientation
Strategic customer intimacy orientation		12 (0,04)
Strategic product leadership orientation	12 (0,04) ^a	

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table G1.5. Construct co-occurrence of specific value proposition in the whole dataset

	Specific Customer jobs	Specific Gain creator	Specific Gains	Specific pain reliever	Specific pains	Specific products and services
Specific Customer Jobs		3 (0,02)	6 (0,04)		1 (0,01)	4 (0,03)
Specific Gain creator	3 (0,02) ^a		5 (0,02)	1 (0,01)		11 (0,05)
Specific Gains	6 (0,04)	5 (0,02)			1 (0,01)	6 (0,03)
Specific pain reliever		1 (0,01)				5 (0,04)
Specific pains	1 (0,01)		1 (0,01)	3 (0,04)	3 (0,04)	
Specific products and services	4 (0,03)	11 (0,05)	6 (0,03)	5 (0,04)		

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table G1.6. Construct co-occurrence of operational learning within the whole dataset

	Operational Learning: Acquisition	Operational Learning: Assimilation	Operational Learning: Exploitation	Operational Learning: Transformation
Operational Learning: Acquisition		34 (0,22)	6 (0,02)	16 (0,06)
Operational Learning: Assimilation	34 (0,22) ^a		10 (0,03)	26 (0,09)
Operational Learning: Exploitation	6 (0,02)	10 (0,03)		62 (0,14)
Operational Learning: Transformation	16 (0,06)	26 (0,09)	62 (0,14)	

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table G1.7. Construct co-occurrence of business development learning within the whole dataset

	Business Development Learning: Acquisition	Business Development Learning: Assimilation	Business Development Learning: Exploitation	Business Development Learning: Transformation
Business Development Learning: Acquisition		2 (0,01)	3 (0,01)	2 (0,00)
Business Development Learning: Assimilation	2 (0,01) ^a		1 (0,01)	32 (0,13)
Business Development Learning: Exploitation	3 (0,01)	1 (0,00)		23 (0,05)
Business Development Learning: Transformation	2 (0,00)	32 (0,13)	23 (0,05)	

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table G1.8. Occurrence of changes in customer segment per document

	Changes in the customer segment	Totals
Interview No. 4: Member of the board B	0	0
Interview No. 3: Project management A	7	7
Interview No. 2: Project management B	8	8
Interview No. 1: Member of the board A	3	3
Primair process	0	0
Totals	18	18

Note: Co-occurrence in total numbers

^a Correlation in brackets

G2: Identification of co-occurrence of the framework elements

Table G2.1. Analysis scheme

	VCC	BMVP	SVP	Operational Learning	Business Development Learning	Strategic orientation of the BMVP
VCC	0	x	x	x	x	x
BMVP	-	0	x	x	x	x
SVP	-	-	0	x	x	x
Operational Learning	-	-	-	0	x	x
Business Development Learning	-	-	-	-	0	x
Strategic orientation of the BMVP	-	-	-	-	-	0

Abbreviations: x = Analyzed; 0 = Analyzed in G1; - = Not analyzed

Table G2.2. Co-occurrence of business model value proposition and specific value proposition in the whole data set

	Specific gain creators	Specific gains	Specific pain reliever	Specific pains	Specific products and services
General Customer jobs		1 (0,01) ^a			
General gain creator		1 (0,00)		1 (0,00)	
General gains					
General pain relievers		1 (0,00)		2 (0,02)	
General pains					
General products and services		1 (0,00)			

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table G2.2. (Continued)

	Specific gain creators	Specific gains	Specific pain reliever	Specific pains	Specific products and services
Strategic product leadership orientation				1 (0,00)	
Strategic customer intimacy orientation	16 (0,06) ^a	19 (0,08)	9 (0,05)	3 (0,02)	19 (0,09)

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table G2.3. Co-occurrence of operational learning and business development learning in the whole data set

	Business Development Learning: Acquisition	Business Development Learning: Assimilation	Business Development Learning: Exploitation	Business Development Learning: Transformation
Operational Learning: Acquisition	10 (0,04) ^a		1 (0,00)	1 (0,00)
Operational Learning: Assimilation	13 (0,05)	3 (0,02)		3 (0,01)
Operational Learning: Exploitation	58 (0,14)			5 (0,01)
Operational Learning: Transformation	60 (0,19)	1 (0,00)		4 (0,01)

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table G2.4. Co-occurrence of value co-creation elements and business model value proposition in the whole data set

	General customer jobs	General gain creators	General gains	General pain relievers	General pains	General products and services	Strategic customer intimacy orientation	Strategic product leadership orientation
Designing and Producing the Solution	5 (0,05) ^a	17(0,04)	5 (0,02)	5 (0,02)	1 (0,00)	10 (0,02)	50 (0,15)	5 (0,01)
Diagnosing Needs: Acquisition	2 (0,02)	10(0,04)	2 (0,02)	3 (0,02)		11 (0,03)	14 (0,06)	4 (0,02)
Diagnosing Needs: Value Co-Creation	2 (0,01)	12(0,03)	3 (0,01)	9 (0,03)		13 (0,03)	25 (0,08)	
Implementing the Solution		1 (0,00)		1 (0,01)		1 (0,00)	8 (0,03)	
Managing Value Conflicts		3 (0,01)		3 (0,02)		2 (0,01)	13 (0,07)	3 (0,02)
Organizing the Process and Resources		5 (0,01)		2 (0,01)		11 (0,02)	48 (0,14)	6 (0,02)

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table G2.5. Co-occurrence of value co-creation elements and specific value proposition in the whole data set

	Specific customer jobs	Specific gain creators	Specific gains	Specific pain relievers	Specific pains	Specific products and services
Designing and Producing the Solution	11 (0,04) ^a	72 (0,24)	42 (0,14)	19 (0,07)	6 (0,02)	35 (0,13)
Diagnosing Needs: Acquisition	1 (0,01)	1 (0,00)	1 (0,01)		1 (0,01)	
Diagnosing Needs: Value Co-Creation	20 (0,10)	11 (0,04)	22 (0,08)	4 (0,02)	8 (0,04)	13 (0,06)
Implementing the Solution		37 (0,20)	8 (0,04)	11 (0,09)	5 (0,04)	5 (0,03)
Managing Value Conflicts	1 (0,01)	6 (0,03)	4 (0,02)	7 (0,07)	9 (0,10)	5 (0,04)
Organizing the Process and Resources	6 (0,02)	53 (0,17)	27 (0,09)	202 (0,08)	9 (0,04)	39 (0,15)

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table G2.6. Co-occurrence of value co-creation elements and operational learning in the whole data set

	Operational Learning: Acquisition	Operational Learning: Assimilation	Operational Learning: Exploitation	Operational Learning: Transformation
Designing and Producing the Solution	28 (0,10) ^a	32 (0,11)	118 (0,29)	78 (0,21)
Diagnosing Needs: Acquisition	20 (0,13)	7 (0,04)	3 (0,01)	3 (0,01)
Diagnosing Needs: Value Co-Creation	23 (0,10)	39 (0,17)	73 (0,18)	38 (0,11)
Implementing the Solution			8 (0,02)	18 (0,06)
Managing Value Conflicts	5 (0,03)	6 (0,04)	12 (0,03)	17 (0,07)
Organizing the Process and Resources	14 (0,05)	15 (0,05)	127 (0,32)	74 (0,20)

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table G2.7. Co-occurrence of value co-creation elements and business development learning in the whole data set

	Business Development Learning: Acquisition	Business Development Learning: Assimilation	Business Development Learning: Exploitation	Business Development Learning: Transformation
Designing and Producing the Solution	49 (0,14) ^a		3 (0,01)	6 (0,01)
Diagnosing Needs: Acquisition	5 (0,02)		4 (0,01)	11 (0,04)
Diagnosing Needs: Value Co-Creation	11 (0,03)	1 (0,00)	4 (0,01)	4 (0,01)
Implementing the Solution	12 (0,05)			
Managing Value Conflicts	25 (0,12)	5 (0,05)	3 (0,01)	9 (0,03)
Organizing the Process and Resources	75 (0,23)	4 (0,01)	4 (0,01)	8 (0,02)

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table G2.8. Co-occurrence of business model value proposition and operational learning in the whole data set

	Operational Learning: Acquisition	Operational Learning: Assimilation	Operational Learning: Exploitation	Operational Learning: Transformation
General Customer jobs	1 (0,01) ^a	2 (0,01)	1 (0,00)	1 (0,00)
General gain creator	9 (0,03)	8 (0,03)	8 (0,02)	3 (0,01)
General gains		3 (0,02)	1 (0,00)	
General pain relievers	6 (0,03)	4 (0,02)	9 (0,02)	1 (0,00)
General pains				
General products and services	7 (0,02)	8 (0,02)	15 (0,03)	15 (0,03)
Strategic product leadership orientation	14 (0,06)	13 (0,05)	57 (0,15)	25 (0,07)
Strategic customer intimacy orientation	3 (0,01)	2 (0,01)	6 (0,01)	6 (0,02)

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table G2.9. Co-occurrence of business model value proposition and business development learning in the whole data set

	Business Development Learning: Acquisition	Business Development Learning: Assimilation	Business Development Learning: Exploitation	Business Development Learning: Transformation
General Customer jobs	1 (0,00) ^a		2 (0,01)	19 (0,07)
General gain creator	3 (0,01)		37 (0,10)	39 (0,10)
General gains			1 (0,00)	8 (0,03)
General pain relievers	1 (0,00)		22 (0,08)	19 (0,06)
General pains		1 (0,01)	2 (0,01)	6 (0,02)
General products and services	1 (0,00)	5 (0,02)	90 (0,23)	54 (0,12)
Strategic product leadership orientation	25 (0,08)		15 (0,04)	11 (0,03)
Strategic customer intimacy orientation	6 (0,02)		44 (0,15)	26 (0,08)

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table G2.10. Co-occurrence of business model value proposition and its strategic orientation within the whole data set

	Strategic customer intimacy orientation	Strategic product leadership orientation
General Customer jobs	4 (0,02) ^a	4 (0,02)
General gain creator	26 (0,08)	40 (0,14)
General gains	1 (0,01)	3 (0,02)
General pain relievers	7 (0,00)	5 (0,02)
General pains	2 (0,01)	
General products and services	11 (0,03)	22 (0,06)

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table G2.11. Co-occurrence of business model value proposition and business development learning in the whole data set

	Operational Learning: Acquisition	Operational Learning: Assimilation	Operational Learning: Exploitation	Operational Learning: Transformation
Specific customer jobs	5 (0,04) ^a	8 (0,06)	19 (0,06)	16 (0,07)
Specific gain creator	6 (0,03)	5 (0,02)	74 (0,21)	41 (0,13)
Specific gains	9 (0,05)	8 (0,04)	61 (0,18)	33 (0,11)
Specific pain reliever	4 (0,03)	2 (0,01)	25 (0,08)	6 (0,02)
Specific pains	4 (0,03)	4 (0,03)	9 (0,03)	15 (0,07)
Specific products and services	1 (0,01)	2 (0,01)	61 (0,20)	14 (0,05)

Note: Occurrence in total numbers

^a Correlation in brackets

Table G2.12. Co-occurrence of specific value proposition and business development learning in the whole data set

	Business Development Learning: Acquisition	Business Development Learning: Assimilation	Business Development Learning: Exploitation	Business Development Learning: Transformation
Specific customer jobs	7 (0,03) ^a			
Specific gain creator	27 (0,10)		1 (0,00)	1 (0,00)
Specific gains	21 (0,08)			1 (0,00)
Specific pain reliever	12 (0,06)			1 (0,00)
Specific pains	14 (0,07)			
Specific products and services	27 (0,12)		1 (0,00)	1 (0,00)

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table G2.13. Co-occurrence of specific value proposition and strategic orientation of BMVP in the whole data set

	Strategic customer intimacy orientation	Strategic product leadership orientation
Specific customer jobs	5 (0,03) ^a	
Specific gain creator	16 (0,06)	
Specific gains	19 (0,08)	1 (0,00)
Specific pain reliever	9 (0,05)	
Specific pains	3 (0,02)	
Specific products and services	19 (0,09)	4 (0,02)

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table G2.14. Co-occurrence of operational learning and strategic orientation of BMVP in the whole data set

	Strategic customer intimacy orientation	Strategic product leadership orientation
Operational Learning: Acquisition	14 (0,06) ^a	3 (0,01)
Operational Learning: Assimilation	13 (0,05)	2 (0,01)
Operational Learning: Exploitation	57 (0,15)	6 (0,01)
Operational Learning: Transformation	25(0,07)	6 (0,02)

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table G2.15. Co-occurrence of operational learning and strategic orientation of BMVP in the whole data set

	Strategic customer intimacy orientation	Strategic product leadership orientation
Business Development Learning: Acquisition	25 (0,08) ^a	7 (0,02)
Business Development Learning: Assimilation		1 (0,01)
Business Development Learning: Exploitation	15 (0,04)	44 (0,15)
Business Development Learning: Transformation	11(0,03)	26 (0,08)

Note: Co-occurrence in total numbers

^a Correlation in brackets

H: Analysis of the fourth, fifth and sixth unit

Occurrence and co-occurrence analysis based upon the documents belonging to the bracketed periods (see also Appendix B).

Abbreviations used: BMVP – Business Model Value Proposition; SVP – Specific Value Proposition; VCC – Value Co-Creation; L1 - Operational Learning; L2 - Business development learning

H1: Element recognition

Table H1.1. Occurrence of all framework elements in the period 2012-2013

	Year plan 2012	Year plan 2013	Project 2012-2013	Totals
Designing and producing the solution	0	0	5	5
Diagnosing needs (acquisition)	1	3	1	5
Diagnosing needs (value co-creation)	1	0	19	20
General customer jobs	3	3	0	6
General gain creators	9	3	9	21
General gains	1	2	0	3
General pain relievers	5	3	3	11
General pains	1	0	0	1
General products and services	9	6	4	19
Operational learning: Acquisition	0	0	3	3
Operational learning: Assimilation	0	0	9	9
Operational learning: Exploitation	0	0	29	29
Operational learning: Transformation	0	0	8	8
Business development learning: Acquisition	0	1	0	1
Business development learning: Assimilation	0	0	13	13
Business development learning: Exploitation	13	14	16	47
Managing value conflicts	0	0	12	12
Organizing process and resources	0	0	14	14
Specific customer jobs	0	0	8	8
Specific gain creator	0	0	10	10
Specific gains	0	0	8	8
Specific pain reliever	0	0	8	8
Specific pains	0	0	2	2

Note: Occurrence in total numbers per document category

Table H1.1. (Continued)

	Year plan 2012	Year plan 2013	Project 2012-2013	Totals
Specific products and service	0	0	5	5
Strategic customer intimacy orientation	1	3	0	4
Strategic product leadership orientation	7	12	1	20
Totals	68	64	187	319

Note: Occurrence in total numbers per document

Table H1.2. Occurrence of all framework elements in the period 2014-2015

	Year plan 2014	Year plan 2015	Multiple year strategy	Project 2014-2015	Totals
Designing and producing the solution	0	0	5	81	86
Diagnosing needs (acquisition)	3	6	9	1	19
Diagnosing needs (value co- creation)	0	0	6	46	52
General customer jobs	3	2	9	0	14
General gain creators	3	9	19	0	31
General gains	2	0	6	0	8
General pain relievers	3	2	14	0	20
General pains	0	1	1	0	2
General products and services	6	11	41	0	58
Operational learning: Acquisition	0	0	2	19	21
Operational learning: Assimilation	0	0	1	14	15
Operational learning: Exploitation	0	0	1	93	94
Operational learning: Transformation	0	1	1	59	61
Business development learning: Acquisition	1	2	1	74	78
Business development learning: Assimilation	0	3	1	0	4
Business development learning: Exploitation	14	22	45	3	84
Managing value conflicts	0	0	2	26	28
Organizing process and resources	0	0	3	77	80
Specific customer jobs	0	0	0	11	11
Specific gain creator	0	0	0	47	47
Specific gains	0	0	0	46	46
Specific pain reliever	0	0	0	18	18
Specific pains	0	0	0	20	

Note: Occurrence in total numbers per document

Table H1.2. (Continued)

	Year plan 2014	Year plan 2015	Multiple year strategy	Project 2014-2015	Totals
Specific products and service	0	0	0	27	27
Strategic customer intimacy orientation	3	2	11	36	52
Strategic product leadership orientation	12	14	11	2	39
Totals	64	88	243	708	1103

Note: Occurrence in total numbers per document

Table H1.3. Occurrence of all framework elements in the period 2015-2016

	Primair process	Year plan 2016	Project 2015-2016	Video	Totals
Designing and producing the solution	2	1	71	2	76
Diagnosing needs (acquisition)	1	2	0	0	3
Diagnosing needs (value co-creation)	1	1	26	0	28
General customer jobs	0	0	0	3	3
General gain creators	1	7	0	12	20
General gains	0	0	0	2	2
General pain relievers	1	7	0	3	10
General pains	0	0	0	2	2
General products and services	1	7	4	2	14
Operational learning: Acquisition	3	0	3	0	6
Operational learning: Assimilation	1	0	7	0	8
Operational learning: Exploitation	2	0	121	0	123
Operational learning: Transformation	2	0	76	0	78
Business development learning: Acquisition	1	1	45	0	47
Business development learning: Assimilation	1	4	0	0	5
Business development learning: Exploitation	1	23	5	0	29
Managing value conflicts	1	3	4	0	8
Organizing process and resources	1	0	97	0	98
Specific customer jobs	1	0	14	0	15
Specific gain creator	0	0	81	0	81
Specific gains	1	0	48	0	49
Specific pain reliever	0	0	37	0	37
Specific pains	1	0	10	0	11

Note: Occurrence in total numbers per document

Table H1.3. (Continued)

	Primair process	Year plan 2016	Project 2015-2016	Video	Totals
Specific products and service	0	0	37	0	37
Strategic customer intimacy orientation	1	4	32	1	38
Strategic product leadership orientation	1	5	4	3	13
Totals	26	65	712	30	833

Note: Occurrence in total numbers per document

Table H1.4. Occurrence of all framework elements in the interviews

	Interviews	Totals
Designing and producing the solution	66	66
Diagnosing needs (acquisition)	60	60
Diagnosing needs (value co-creation)	72	72
General customer jobs	21	21
General gain creators	125	125
General gains	23	23
General pain relievers	54	54
General pains	12	12
General products and services	166	166
Operational learning: Acquisition	54	54
Operational learning: Assimilation	68	68
Operational learning: Exploitation	46	46
Operational learning: Transformation	63	63
Business development learning: Acquisition	44	44
Business development learning: Assimilation	38	38
Business development learning: Exploitation	65	65
Business development learning: Transformation	63	63
Managing value conflicts	86	86
Organizing process and resources	19	19
Specific customer jobs	39	39
Specific gain creator	12	12
Specific gains	0	0
Specific pain reliever	7	7
Specific pains	0	0
Specific products and service	2	2
Strategic customer intimacy orientation	6	6
Strategic product leadership orientation	60	60
Totals	62	62

Note: Occurrence in total numbers per document

H2: Construct analysis: Identification of co-occurrences between framework elements per period

Table H2.1. Analysis scheme

	VCC	BMVP	SVP	Operational Learning	Business Development Learning	Strategic orientation of the BMVP
VCC	0	x	x	x	x	x
BMVP	-	0	x	x	x	x
SVP	-	-	0	x	x	x
Operational Learning	-	-	-	0	x	x
Business Development Learning	-	-	-	-	0	x
Strategic orientation of the BMVP	-	-	-	-	-	0

Abbreviations: x = Analyzed; 0 = already performed construct co-occurrence; - = Not analyzed

Table H2.2. Co-occurrence of business model value proposition and specific value proposition in 2012-2013 (empty)

	Specific customer jobs	Specific gain creators	Specific gains	Specific pain reliever	Specific pains	Specific products and services
General Customer jobs						
General gain creator						
General gains						
General pain relievers						
General pains						
General products and services						
Strategic customer intimacy orientation						
Strategic product leadership orientation						

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table H2.3. Co-occurrence of business model value proposition and specific value proposition in 2014-2015

	Specific customer jobs	Specific gain creators	Specific gains	Specific pain reliever	Specific pains	Specific products and services
General Customer jobs						
General gain creator	1 (0,02) ^a		1 (0,01)		1 (0,02)	
General gains						
General pain relievers	1 (0,03)		1 (0,02)		1 (0,04)	
General pains						
General products and services	1 (0,02)		1 (0,01)		1 (0,02)	

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table H2.4. Co-occurrence of business model value proposition and specific value proposition in 2015-2016

	Specific customer jobs	Specific gain creators	Specific gains	Specific pain reliever	Specific pains	Specific products and services
General Customer jobs						
General gain creator						
General gains						
General pain relievers						
General pains						
General products and services						
Strategic customer intimacy orientation	1 (0,02) ^a	11(0,13)	6 (0,07)	6 (0,09)	2 (0,03)	10 (0,14)
Strategic product leadership orientation			1 (0,01)			

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table H2.5. Co-occurrence of operational earning and business development learning in 2012-2013 (empty)

	Business Development Learning: Acquisition	Business Development Learning: Assimilation	Business Development Learning: Exploitation	Business Development Learning: Transformation
Operational Learning: Acquisition				
Operational Learning: Assimilation				
Operational Learning: Exploitation				
Operational Learning: Transformation				

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table H2.6. Co-occurrence of operational earning and business development learning in 2014-2015

	Business Development Learning: Acquisition	Business Development Learning: Assimilation	Business Development Learning: Exploitation	Business Development Learning: Transformation
Operational Learning: Acquisition	2 (0,02) ^a			
Operational Learning: Assimilation	2 (0,02)			
Operational Learning: Exploitation	35 (0,26)			
Operational Learning: Transformation	38 (0,38)			1 (0,01)

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table H2.7. Co-occurrence of operational earning and business development learning in 2015-2016

	Business Development Learning: Acquisition	Business Development Learning: Assimilation	Business Development Learning: Exploitation	Business Development Learning: Transformation
Operational Learning: Acquisition			1 (0,01)	1(0,02)
Operational Learning: Assimilation				
Operational Learning: Exploitation	12 (0,11) ^a			
Operational Learning: Transformation	19 (0,17)		5 (0,03)	1 (0,01)

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table H2.8. Co-occurrence of value co-creation activities and business model value proposition in 2012-2013

	General customer jobs	General gain creators	General gains	General pain relievers	General pains	General products and services	Strategic customer intimacy orientation	Strategic product leadership orientation
Designing and Producing the Solution				1 (0,07) ^a				
Diagnosing Needs: Acquisition								
Diagnosing Needs: Value Co-Creation				1 (0,03)				
Implementing the Solution								
Managing Value Conflicts								
Organizing the Process and Resources				1 (0,04)		2 (0,06)		

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table H2.9. Co-occurrence of value co-creation activities and business model value proposition in 2014-2015

	General customer jobs	General gain creators	General gains	General pain relievers	General pains	General products and services	Strategic customer intimacy orientation	Strategic product leadership orientation
Designing and Producing the Solution		1 (0,01) ^a				3 (0,02)	27 (0,24)	
Diagnosing Needs: Acquisition						2 (0,02)	1 (0,01)	1 (0,02)
Diagnosing Needs: Value Co-Creation						2 (0,02)	15 (0,16)	
Implementing the Solution							2 (0,03)	
Managing Value Conflicts							8 (0,11)	1 (0,01)
Organizing the Process and Resources						3 (0,02)	26 (0,24)	

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table H2.10. Co-occurrence of value co-creation activities and business model value proposition in 2015-2016

	General customer jobs	General gain creators	General gains	General pain relievers	General pains	General products and services
Designing and Producing the Solution		4 (0,04) ^a	2 (0,03)	2 (0,02)		3 (0,02)
Diagnosing Needs: Acquisition		2 (0,04)		1 (0,03)		1 (0,02)
Diagnosing Needs: Value Co-Creation						1 (0,01)
Implementing the Solution		1 (0,01)		1 (0,01)		1 (0,01)
Managing Value Conflicts		1 (0,03)		1 (0,05)		1 (0,02)
Organizing the Process and Resources						5 (0,04)

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table H2.11. Co-occurrence of value co-creation activities and specific value proposition in 2012-2013

	Specific customer jobs	Specific gain creators	Specific gains	Specific pain relievers	Specific pains	Specific products and services
Designing and Producing the Solution		2 (0,15)				
Diagnosing Needs: Acquisition						
Diagnosing Needs: Value Co-Creation	6 (0,27) ^a	2 (0,07)	5 (0,22)	3(0,12)	2 (0,10)	1 (0,04)
Implementing the Solution						
Managing Value Conflicts		1 (0,05)	1 (0,05)	2 (0,11)		
Organizing the Process and Resources	1 (0,05)	1 (0,04)		2 (0,10)		3 (0,19)

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table H2.12. Co-occurrence of value co-creation activities and specific value proposition in 2014-2015

	Specific customer jobs	Specific gain creators	Specific gains	Specific pain relievers	Specific pains	Specific products and services
Designing and Producing the Solution	6 (0,07) ^a	30 (0,29)	19 (0,17)	7 (0,07)	4 (0,04)	24 (0,27)
Diagnosing Needs: Acquisition		1 (0,02)				
Diagnosing Needs: Value Co-Creation	9 (0,17)	5 (0,05)	14 (0,17)		1 (0,01)	9 (0,13)
Implementing the Solution		4 (0,07)	5 (0,09)			1 (0,03)
Managing Value Conflicts		5 (0,07)	2 (0,03)	4 (0,10)	8 (0,20)	5 (0,10)
Organizing the Process and Resources		23 (0,22)	4 (0,03)	10 (0,11)	8 (0,09)	18 (0,20)

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table H2.13. Co-occurrence of value co-creation activities and specific value proposition in 2015-2016

	Specific customer jobs	Specific gain creators	Specific gains	Specific pain relievers	Specific pains	Specific products and services
Designing and Producing the Solution	3 (0,03) ^a	40 (0,34)	19 (0,18)	12 (0,13)	2 (0,02)	10 (0,10)
Diagnosing Needs: Acquisition	1 (0,04)		1 (0,02)		1 (0,04)	
Diagnosing Needs: Value Co-Creation	5 (0,13)	4 (0,04)	3 (0,04)	1 (0,02)	5 (0,15)	2 (0,03)
Implementing the Solution		33 (0,29)	3 (0,03)	11 (0,14)	5 (0,07)	4 (0,04)
Managing Value Conflicts	1 (0,06)		1 (0,02)	1 (0,04)	1 (0,08)	
Organizing the Process and Resources	4 (0,04)	29 (0,19)	22 (0,18)	8 (0,07)	1 (0,01)	16 (0,13)

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table H2.14. Co-occurrence of value co-creation activities and operational learning in 2012-2013

	Operational Learning: Acquisition	Operational Learning: Assimilation	Operational Learning: Exploitation	Operational Learning: Transformation
Designing and Producing the Solution	3 (0,60) ^a	3 (0,27)	3 (0,10)	2 (0,18)
Diagnosing Needs: Acquisition				
Diagnosing Needs: Value Co-Creation	1 (0,05)	8 (0,38)	9 (0,23)	2 (0,08)
Implementing the Solution				
Managing Value Conflicts			2 (0,05)	5 (0,33)
Organizing the Process and Resources			11 (0,34)	1 (0,05)

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table H2.15. Co-occurrence of value co-creation activities and operational learning in 2014-2015

	Operational Learning: Acquisition	Operational Learning: Assimilation	Operational Learning: Exploitation	Operational Learning: Transformation
Designing and Producing the Solution	12 (0,13) ^a	9 (0,10)	48 (0,36)	30 (0,26)
Diagnosing Needs: Acquisition			2 (0,02)	2 (0,03)
Diagnosing Needs: Value Co-Creation	7 (0,11)	7 (0,12)	27 (0,23)	9 (0,09)
Implementing the Solution			5 (0,05)	4 (0,06)
Managing Value Conflicts	2 (0,04)	1 (0,02)	7 (0,06)	10 (0,13)
Organizing the Process and Resources	5 (0,05)	3 (0,03)	48 (0,38)	28 (0,25)

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table H2.16. Co-occurrence of value co-creation activities and operational learning in 2015-2016

	Operational Learning: Acquisition	Operational Learning: Assimilation	Operational Learning: Exploitation	Operational Learning: Transformation
Designing and Producing the Solution	2 (0,02) ^a	1 (0,01)	57 (0,39)	24 (0,18)
Diagnosing Needs: Acquisition	4 (0,24)	1 (0,05)		
Diagnosing Needs: Value Co-Creation	1 (0,03)	5 (0,16)	17 (0,12)	15 (0,16)
Implementing the Solution			3 (0,02)	14 (0,11)
Managing Value Conflicts	1 (0,10)		1 (0,01)	1 (0,01)
Organizing the Process and Resources	2 (0,02)	3 (0,03)	58 (0,35)	34 (0,24)

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table H2.17. Co-occurrence of value co-creation activities and business development learning in 2012-2013

	Business Development Learning: Acquisition	Business Development Learning: Assimilation	Business Development Learning: Exploitation	Business Development Learning: Transformation
Designing and Producing the Solution				
Diagnosing Needs: Acquisition				3 (0,06)
Diagnosing Needs: Value Co-Creation				2 (0,03)
Implementing the Solution				
Managing Value Conflicts		5 (0,25) ^a		3 (0,05)
Organizing the Process and Resources		4 (0,17)		1 (0,02)

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table H2.18. Co-occurrence of value co-creation activities and business development learning in 2014-2015

	Business Development Learning: Acquisition	Business Development Learning: Assimilation	Business Development Learning: Exploitation	Business Development Learning: Transformation
Designing and Producing the Solution	31 (0,23) ^a		1 (0,01)	2 (0,01)
Diagnosing Needs: Acquisition	2 (0,02)		3 (0,03)	6 (0,06)
Diagnosing Needs: Value Co-Creation	6 (0,05)		1 (0,01)	2 (0,01)
Implementing the Solution	10 (0,12)			
Managing Value Conflicts	18 (0,20)		3 (0,03)	4 (0,04)
Organizing the Process and Resources	37 (0,31)		1 (0,01)	3 (0,02)

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table H2.19. Co-occurrence of value co-creation activities and business development learning in 2015-2016

	Business Development Learning: Acquisition	Business Development Learning: Assimilation	Business Development Learning: Exploitation	Business Development Learning: Transformation
Designing and Producing the Solution	5 (0,04) ^a		2 (0,01)	3 (0,03)
Diagnosing Needs: Acquisition			2 (0,02)	4 (0,08)
Diagnosing Needs: Value Co-Creation			1 (0,01)	
Implementing the Solution	2 (0,02)			
Managing Value Conflicts	2 (0,04)			
Organizing the Process and Resources	27 (0,23)		3 (0,02)	4 (0,03)

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table H2.20. Co-occurrence of business model value proposition and operational learning in 2012-2013

	Operational Learning: Acquisition	Operational Learning: Assimilation	Operational Learning: Exploitation	Operational Learning: Transformation
General Customer jobs				
General gain creator				
General gains				
General pain relievers			3 (0,08) ^a	
General pains				
General products and services			4 (0,09)	
Strategic product leadership orientation				
Strategic customer intimacy orientation				

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table H2.21. Co-occurrence of business model value proposition and operational learning in 2014-2015

	Operational Learning: Acquisition	Operational Learning: Assimilation	Operational Learning: Exploitation	Operational Learning: Transformation
General Customer jobs				
General gain creator				
General gains				
General pain relievers				
General pains				
General products and services	2 (0,03) ^a	1 (0,01)	1 (0,01)	1 (0,01)
Strategic product leadership orientation	7 (0,11)	8 (0,14)	35 (0,32)	10 (0,10)
Strategic customer intimacy orientation				1 (0,01)

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table H2.22. Co-occurrence of business model value proposition and operational learning in 2015-2016

	Operational Learning: Acquisition	Operational Learning: Assimilation	Operational Learning: Exploitation	Operational Learning: Transformation
General Customer jobs				
General gain creator	3 (0,08) ^a	1 (0,02)	2 (0,01)	
General gains				
General pain relievers	3 (0,13)	1 (0,04)	1 (0,01)	
General pains				
General products and services	2 (0,04)	1 (0,02)	3 (0,02)	3 (0,02)

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table H2.23. Co-occurrence of business model value proposition and business development learning in 2012-2013

	Business Development Learning: Acquisition	Business Development Learning: Assimilation	Business Development Learning: Exploitation	Business Development Learning: Transformation
General Customer Jobs				6 (0,13)
General Gain Creator			6 (0,14)	15 (0,28)
General Gains				1 (0,02)
General Pain Reliever			2 (0,06)	6 (0,12)
General Pains				1 (0,02)
General Products and Services			6 (0,15)	9 (0,16)
Strategic customer intimacy orientation			2 (0,07)	2 (0,04)
Strategic product leadership orientation	1 (0,05) ^a		13 (0,38)	4 (0,06)

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table H2.24. Co-occurrence of business model value proposition and business development learning in 2014-2015

	Business Development Learning: Acquisition	Business Development Learning: Assimilation	Business Development Learning: Exploitation	Business Development Learning: Transformation
General Customer Jobs			2 (0,02)	14 (0,16)
General Gain Creator	1 (0,01) ^a		12 (0,12)	16 (0,16)
General Gains				6 (0,07)
General Pain Reliever			9 (0,09)	10 (0,10)
General Pains				2 (0,02)
General Products and Services			33 (0,30)	22 (0,18)
Strategic customer intimacy orientation	19 (0,17)		7 (0,05)	10 (0,08)
Strategic product leadership orientation	3 (0,03)		27 (0,28)	8 (0,07)

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table H2.25. Co-occurrence of business model value proposition and business development learning in 2015-2016

	Business Development Learning: Acquisition	Business Development Learning: Assimilation	Business Development Learning: Exploitation	Business Development Learning: Transformation
General Customer Jobs				4 (0,10)
General Gain Creator	1 (0,01) ^a		16 (0,18)	5 (0,07)
General Gains				1 (0,02)
General Pain Reliever			10 (0,13)	5 (0,10)
General Pains				1 (0,02)
General Products & Services			29 (0,33)	12 (0,16)

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table H2.26. Co-occurrence of specific value proposition and operational learning in 2012-2013

	Operational Learning: Acquisition	Operational Learning: Assimilation	Operational Learning: Exploitation	Operational Learning: Transformation
Specific Customer Jobs		5 (0,42)	4 (0,12)	
Specific Gain Creator	1 (0,08) ^a	1 (0,06)	6 (0,18)	1 (0,06)
Specific Gains		3 (0,21)	4 (0,12)	
Specific Pain Reliever			7 (0,23)	
Specific Pains			2 (0,07)	
Specific Products & Services			4 (0,13)	

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table H2.27. Co-occurrence of specific value proposition and operational learning in 2014-2015

	Operational Learning: Acquisition	Operational Learning: Assimilation	Operational Learning: Exploitation	Operational Learning: Transformation
Specific Customer Jobs	1 (0,03) ^a		6 (0,06)	5 (0,07)
Specific Gain Creator	5 (0,08)	4 (0,07)	29 (0,26)	19 (0,21)
Specific Gains	4 (0,06)	3 (0,05)	24 (0,21)	15 (0,16)
Specific Pain Reliever	4 (0,11)	2 (0,06)	7 (0,07)	4 (0,05)
Specific Pains	1 (0,03)	1 (0,03)	5 (0,05)	9 (0,13)
Specific Products & Services	1 (0,02)	1 (0,02)	33 (0,38)	5 (0,06)

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table H2.28. Co-occurrence of specific value proposition and operational learning in 2015-2016

	Operational Learning: Acquisition	Operational Learning: Assimilation	Operational Learning: Exploitation	Operational Learning: Transformation
Specific Customer Jobs	4 (0,21) ^a	3 (0,15)	9 (0,07)	9 (0,11)
Specific Gain Creator			39 (0,23)	21 (0,15)
Specific Gains	4 (0,08)	2 (0,04)	33 (0,23)	16 (0,14)
Specific Pain Reliever			11 (0,08)	2 (0,02)
Specific Pains	3 (0,19)	3 (0,19)	2 (0,01)	6 (0,07)
Specific Products and Services		1 (0,02)	20 (0,14)	9 (0,08)

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table H2.29. Co-occurrence of specific value proposition and business development learning in 2012-2013

	Business Development Learning: Acquisition	Business Development Learning: Assimilation	Business Development Learning: Exploitation	Business Development Learning: Transformation
Specific Customer Jobs				
Specific Gain Creator				1 (0,02) ^a
Specific Gains				1 (0,02)
Specific Pain Reliever				1 (0,02)
Specific Pains				
Specific Products and Services				

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table H2.30. Co-occurrence of specific value proposition and business development learning in 2014-2015

	Business Development Learning: Acquisition	Business Development Learning: Assimilation	Business Development Learning: Exploitation	Business Development Learning: Transformation
Specific Customer Jobs	5 (0,06) ^a			
Specific Gain Creator	21 (0,20)			
Specific Gains	16 (0,15)			
Specific Pain Reliever	7 (0,08)			
Specific Pains	14 (0,17)			
Specific Products and Services	16 (0,18)			1 (0,01)

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table H2.31. Co-occurrence of specific value proposition and business development learning in 2015-2016

	Business Development Learning: Acquisition	Business Development Learning: Assimilation	Business Development Learning: Exploitation	Business Development Learning: Transformation
Specific Customer Jobs	2 (0,03) ^a			
Specific Gain Creator	6 (0,05)		1 (0,01)	
Specific Gains	5 (0,05)			
Specific Pain Reliever	5 (0,07)			
Specific Pains				
Specific Products and Services	9 (0,12)		1 (0,01)	

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table H2.32. Co-occurrence of specific value proposition and strategic BMVP orientation in 2012-2013

	Strategic customer intimacy orientation	Strategic product leadership orientation
Specific Customer Jobs		
Specific Gain Creator		
Specific Gains		
Specific Pain Reliever		
Specific Pains		
Specific Products & Services		1 (0,04) ^a

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table H2.33. Co-occurrence of specific value proposition and strategic BMVP orientation in 2014-2015

	Strategic customer intimacy orientation	Strategic product leadership orientation
Specific Customer Jobs	1 (0,02) ^a	
Specific Gain Creator	11 (0,13)	
Specific Gains	6 (0,07)	1 (0,01)
Specific Pain Reliever	6 (0,09)	
Specific Pains	2 (0,03)	
Specific Products & Services	10 (0,14)	

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table H2.34. Co-occurrence of specific value proposition and strategic BMVP orientation in 2015-2016

	Strategic customer intimacy orientation	Strategic product leadership orientation
Specific Customer Jobs	4 (0,08) ^a	
Specific Gain Creator	5 (0,04)	
Specific Gains	12 (0,16)	
Specific Pain Reliever	3 (0,05)	
Specific Pains	1 (0,02)	
Specific Products & Services	9 (0,13)	

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table H2.35. Co-occurrence of operational learning and strategic BMVP orientation in 2012-2013 (empty)

	Strategic customer intimacy orientation	Strategic product leadership orientation
Operational Learning: Acquisition		
Operational Learning: Assimilation		
Operational Learning: Exploitation		
Operational Learning: Transformation		

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table H2.36. Co-occurrence of operational learning and strategic BMVP orientation in 2014-2015

	Strategic customer intimacy orientation	Strategic product leadership orientation
Operational Learning: Acquisition	7 (0,11) ^a	
Operational Learning: Assimilation	8 (0,14)	
Operational Learning: Exploitation	35 (0,32)	
Operational Learning: Transformation	10 (0,10)	1 (0,01)

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table H2.37. Co-occurrence of operational learning and strategic BMVP orientation in 2015-2016

	Strategic customer intimacy orientation	Strategic product leadership orientation
Operational Learning: Acquisition	1 (0,02) ^a	2 (0,05)
Operational Learning: Assimilation		
Operational Learning: Exploitation	20 (0,14)	1 (0,01)
Operational Learning: Transformation	12 (0,11)	2 (0,02)

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table H2.38. Co-occurrence of business development learning and strategic BMVP orientation in 2012-2013

	Strategic customer intimacy orientation	Strategic product leadership orientation
Business Development Learning: Acquisition		1 (0,05)
Business Development Learning: Assimilation		
Business Development Learning: Exploitation	2 (0,07) ^a	13 (0,38)
Business Development Learning: Transformation	2 (0,04)	4 (0,06)

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table H2.39. Co-occurrence of business development learning and strategic BMVP orientation in 2014-2015

	Strategic customer intimacy orientation	Strategic product leadership orientation
Business Development Learning: Acquisition	19 (0,17) ^a	3 (0,03)
Business Development Learning: Assimilation		
Business Development Learning: Exploitation	7 (0,05)	27 (0,28)
Business Development Learning: Transformation	10 (0,08)	8 (0,07)

Note: Co-occurrence in total numbers

^a Correlation in brackets

Table H2.40. Co-occurrence of business development learning and strategic BMVP orientation in 2015-2016

	Strategic customer intimacy orientation	Strategic product leadership orientation
Business Development Learning: Acquisition		3 (0,04)
Business Development Learning: Assimilation		1 (0,02)
Business Development Learning: Exploitation	5 (0,05) ^a	22 (0,26)
Business Development Learning: Transformation	1 (0,01)	8 (0,12)

Note: Co-occurrence in total numbers

^a Correlation in brackets