Co-Creation: Developing Competitive Advantage in Value Networks

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Co-creation: Developing Competitive Advantage in Value Networks

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Abstract

In the recent past the paradigm of value creation has started to change, moving from product-focused value chains to knowledge-driven collaborative environments. The underlying driver can be found in customers themselves who are informed and connected as never before. Modern technology enables individuals to become more active by facilitating communication and collaboration globally. The emerging value creating networks are characterised by increasingly permeable boundaries between industries and firms, as well as blurring roles of consumers and producers (Dyer and Singh 1998, Storbacka 2007).

This thesis aims to provide insights into the development of sustainable competitive advantage by engaging customers in co-creation. A review of the state of current knowledge about co-creation, business models and strategy is followed by a discussion of the case study methodology.

The case of a leading German PC magazine’s online community focuses on product innovation and joint product development of a new technology-based service. User-generated ideas for a new online community feature are collected from lead-user interviews and analysed. Discussion reflects the learning from the case, leading to a framework for leveraging co-creation communities.

Due to exploratory nature of the research, findings are provisional and need to be verified in quantitative studies. Nevertheless, the results provide management guidelines for successful co-creation projects from planning to implementation.

Although the concept of co-creation is widely accepted in literature and examined in terms of motives, structure and evolution, there is little knowledge concerning conditions required for successful co-creation. The case contributes to the literature of co-creation, demonstrating how competitive advantage has been achieved in a particular customer community.
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1. Introduction

The environment companies are facing today is in general increasingly complex and shaped by the effects of globalisation and the impact of new technologies. These major trends challenge existing business processes, business models and strategies. In the course of these changes, Prahalad and Ramaswamy observed a phenomenon in the late 1990s concerning emerging issues in corporate strategy:

"[The phenomenon] challenged the distinction between enterprises and households. The phenomenon seemed universal, forcing change in governments and industries alike. In nearly all cases, there was a portending shift in the balance of influence between the individual and the institution […]. More important, the individual could actively participate in the process by which all these institutions generate value […]. The consumer and the firm are intimately involved in jointly creating value that is unique to the individual consumer and sustainable to the firm.” (Prahalad and Ramaswamy 2004a, pp. ix-x)

1.1. Background

Creating value together in a value network, or in other terms co-creation, has the potential to offer benefits to both organisations and customers, such as taking part in a new experience of value and at the same time lowering their own risks. However, for organisations this also means releasing control and opening up to customers, suppliers, communities and networks (Ramaswamy 2009). Ramaswamy regards users as drivers of this change, since „largely thanks to the Internet” (Ramaswamy 2009, p. 29) customers are informed and connected as never before, enabling each individual to become more active. By interacting with the firm, customers co-create value individually and blur the borders between firms and customers.

However, while Ramaswamy emphasizes the connection between the co-creation phenomenon and the Internet, co-creation was interestingly foreseen by Toffler already in 1980, years before the Internet enabled the broad masses of users to connect, share knowledge and interact globally. 30 years ago he coined the term prosumer, a combination of the terms producer and consumer to describe a new type of individual that, according to Toffler (1980), is about to enter the marketplace.
While in the industrial era production and consumption have been strictly separated, Toffler predicted their (re)unification. The emerging communications modalities accelerate this development by facilitating communication and collaboration globally, thus, making value creation a joint process. This concept is transferable to all business relationships, including suppliers, retailers, customers and any other partner in the so called value network.

Today, the concept of co-creation is widely accepted in literature and examined in terms of motives, structure and evolution; however, there is little knowledge concerning performance of value networks, or, as Gulati (1998) puts it: The primary focus has so far been on the WHY question while the HOW question is often neglected. The aim of this thesis, thus, is to contribute filling this gap by drawing conclusions from the case study of the download platform Download.DISC.eu (DDU).

1.2. Research question

The purpose of this thesis is to answer the question how competitive advantage can be developed in value networks. Based on the DDU case study, the thesis aims at developing a framework that accommodates for the complexity in value exchange caused by volatile intangible resources and impact of motives and triggers on community participation.

DDU is the international download community of the computer magazine DISC, providing a collection of virus-checked software which is reviewed by users and enhanced with editorial content. Besides the main download platforms, localised in twelve European and Asian countries, DDU is about to develop a new offering that allows users to create a customised download collection. However, the co-creation process is not customising and embedding a personal collection but developing this offering together with customers. The process involves users in the product development since there is no finished list of features, a prototype or test-system ready yet. Instead DDU aims at supporting users creating knowledge actively and designing a radically new online offering, going far beyond customisation. DDU and the users enter a value creating network, driven by complex exchange of tangible and intangible benefits, and knowledge. These forms of providing and receiving value are not accounted for by existing business models and call for a framework that describes how to systematically gain and sustain competitive advantage in such complex and dynamic settings.
To better understand the main research question, “How can competitive advantage be developed in value networks?”, it is divided into several sub-questions:

- What is competitive advantage?
- What are value networks?
- Who participates in value networks, and why?
- Are business models affected by co-creation?

Combining the conclusions gained from a detailed literature review and the DDU case study will reveal what must be considered to develop and sustain competitive advantage in value networks.

1.3. Presentation structure

The thesis first presents a literature review in chapter 2. Firstly, an outline of the state of current knowledge on co-creation is presented and contrasted with similar concepts in order to establish a preliminary definition. This part of the literature review focuses on the concept developed by Vargo and Lusch (Vargo and Lusch 2004). The authors connect value co-creation and the Service-Dominant Logic (SDL), a service-centred model of marketing, stating that marketing must exceed customer-orientation by interacting and collaborating with customers in order to react flexibly to their individual and changing needs. Other authors’ ideas centre on the term experience. Another key concept examined in this part is the idea of value networks, assuming that no firm alone can fully satisfy customer needs and that “competition in the future will shift to the network level from the firm level” (Kothandaraman and Wilson 2001, p. 379). Finally, the first part of the literature review concludes by transferring the previously gathered knowledge to user-generated content websites, in order to reveal the specific characteristics of the DDU case study.

The final part of the literature review combines theories and concepts concerning business models which are relevant in the context of value networks. Besides general questions concerning business model ontology, the focus lies on the question whether a new logic for business models is required in today’s increasingly complex, dynamic and IT-shaped business environments. Allee (2000) criticises that the growing importance of knowledge and intangible value exchange as the foundation of the emerging value
networks is not yet considered in current business models. Thus, DISC’s business model will be presented comparing the status before and after the co-creation project.

Having introduced the concepts of value networks, competitive advantage and business models, as well as relevant methods for analysis, the case study methodology is presented in chapter 3. This part discusses the initial conditions of single case studies.

The fourth chapter introduces research models that will be applied later on, focusing on the concept of competitive advantage. According to Teigland (2009), a competitive advantage is the ability of a firm to earn a persistently higher rate of profit when competing with other firms within the same market. This definition shows that both the inside (“ability of a firm”) and outside (“market”) of a firm influence the development of competitive advantage. Thus, the chapter presents models that can be used to analyse the industry as well as the firm itself.

In chapter 5, the previously introduced theory concerning competitive advantage and business models will be applied to the DDU case in this chapter. Relating the company to its environment to find the ideal position has traditionally been part of strategy setting already in Porter’s industrial theory (Porter 1996). Strategic implications derived from the company and industry analysis set the framework and initial conditions for the upcoming co-creation task. This step aims at contributing to the question whether existing models from company and industry analysis are still valid and useful in co-creation settings.

While chapter 5 examined the conditions and setting of the study’s co-creation project on an abstract level, chapter 6 digs deep into the DISC case, tracing the processes from defining the project, identifying co-creation candidates (segmentation) to gaining their initial cooperation (data collection). This chapter, called value research, also includes within-case analysis. This phase is of particular importance since it fills the usually huge gap between data collection and conclusions. It is supposed to help readers reconstructing how theory is formed from data. This part contains detailed reports which increase the study’s traceability through their descriptive nature. The chapter is finished by analysis the collected data, shaping hypotheses based on the case study findings.

Finally, theory and practical experience from the case study are combined and discussed in chapter 7, resulting in guidelines for “leveraging co-creation communities”. By comparing experiences from the case study with existing literature, the guidelines aim at
bringing together existing theories and practical experiences in a new way. Besides providing a step-by-step guide for practitioners, the framework also reveals open questions. These questions are presented in the final chapter 8, proposing agendas for future research.
2. Literature review

Co-creation implies active dialogue, two-way information flow and close cooperation. However, even contemporary marketing research often seems to be limited in this respect. For instance, in industrial or service marketing introduced relationship marketing as reaction to changes in market environments. Grönroos (1994) defined the responsibility of marketing as “to establish, maintain, end enhance […] relationships with customers and other partners, at a profit, so that the objectives of the parties involved are met.” This concept exceeds traditional marketing-mix toolbox thinking; however even the term used – relationship marketing – still reflects a distanced, rather one-sided process to the customer with a one-way information flow, while the potential of true interaction remains untapped.

2.1. Definition and classification of co-creation

The potential of interaction between an organisation and its customers or any other partner as a driver of innovation and business performance is reflected in literature on co-production, co-creation (Prahalad and Ramaswamy 2000, 20004a) or prosumption (Toffler 1980, Kotler 1986).

These terms are closely connected and often used interchangeably. For example, Troye and Xie (2007) base their definition of prosumption on the idea of Vargo and Lusch’s concept of value co-creation (Lusch and Vargo 2006). Troye and Xie (2007) define prosumption as “value creation activities undertaken by the consumer that result in the production of products they eventually consume and that become their consumption experiences.” This definition consists of two components. Firstly, value is created in use and does not reside in a product or service. Secondly, co-production involves the customer’s active participation in the creation of the core offering. In contrast, Etgar (2008) distinguishes the terms co-production and co-creation and points out their temporal difference: In his view, co-production affects the production process while co-creation occurs during usage/consumption. One could, in addition, argue that customer participation in the production process requires higher involvement and expertise. Following Prahalad and Ramaswamy (2000) companies should create opportunities for customers to choose their level involvement themselves.
This thesis will not follow Etgar’s (2008) differentiated understanding of co-production and co-creation, because it was argued previously that there is no obvious reason to strictly divide the stages “production” and “consumption” anymore, making his differentiated understanding of co-production/-creation obsolete. Instead, the term used in this thesis will be co-creation, defined as:

the process by which products, services and experiences are developed jointly by companies and their stakeholders (Ramaswamy 2009).

The chosen definition centres on interactivity (“jointly”) and experiences (“process”).

Di Gangi and Wasko (2009), divide experience into two psychological components, individual involvement and personal meaning. Individual involvement is also part of Prahalad and Ramaswamy's concept and describes the user’s individual perception of the importance and personal relevance of a system (Barki and Hartwick 1989). Personal meaning describes the degree to which users see their needs fulfilled (Di Gangi and Wasko 2009).

**Co-creation and relationship marketing**

The concept of co-creation does not contradict relationship marketing but, according to Sawhney and Prandelli (2000), co-creation exceeds the traditional conceptualisation of relationship marketing due to the two-way relationships and collaboration. Customer relationship marketing aims at creating additional customer value through personalised communications relying mostly on database marketing instead of building intense and personal relationships (Best 2004, chapter 5).

**Co-creation and business networks**

The central aspect in co-creation is the increasingly active role of customers who interact with organisations. This transition is facilitated by contemporary marketing practices, information and communication technology as well as modern production processes. In consequence, customers become part of what was called business network by Anderson et al. (1994) or Cox and Goodman (1956). These authors focus on the exchange and transformation activities that accompany networks of inter-firm relationships. With customers entering and becoming active participants in these business networks, the term value network as used by Ford et al. (2002, chapter 6) becomes more appropriate.
Ford et al. consider the consumers’ view and question the traditional roles of manufacturers, intermediaries and users. The authors focus on the behavioural aspects such as collaboration and mutual exchange of information.

**Co-creation and customer knowledge**

By this means, co-creation can be regarded as a source of customer knowledge. Matthing et al. (2004) argue that the value of customer involvement lies in the opportunity to learn about customers’ current and future needs. User contribution is regarded as particularly valuable in the stage of product development, for example through the involvement of selected lead users in the development process (Lilien et al. 2002). Prahalad and Ramaswamy (Prahalad and Ramaswamy 2000) even call consumers a “source of competence for the corporation” and developed a framework to better understand this intangible asset.

**Co-creation and customer orientation**

Gaining customer knowledge is also a key concept in the theory of customer orientation. Customer orientation, according to Kohli and Jaworski (1990), aims at establishing a company-wide concern and responsiveness to customer needs by overcoming internal boundaries and creating a seamlessly integrated system where all parts work together to fully satisfy customer needs. In their perspective, Marketing takes a leading role in this integration process and is the central organ for customer knowledge generation and dissemination.

However, their view is limited to a one-way communication and information flow as a reaction to customer needs compared to active collaboration and co-creation. Ramaswamy (2009), in contrast, emphasises the ‘employee experience’ which must be placed in the centre of the organisation since only employees who feel empowered and encouraged can interact with customers, and interaction is central to co-creation. In consequence, one could argue that customer orientation is grounded in organisation-to-customer communication while co-creation is driven by employee-customer interaction. This makes co-creation a “people business” and a mission for the entire company instead of a Marketing job.
Co-creation and service marketing

The idea of marketing as a facilitator in the process of joint value creation is presented by Vargo and Lusch (2004, 2006) and called service-dominant logic (SDL). Their concept draws attention away from features and specifications of goods to the service that an offer provides for customers. Attending to the customers’ use situations improves a firm’s ability to assist customers in their value creation. SDL is a marketing concept, based on nine propositions that are supposed to create a better understanding of value and exchange. For this thesis, the most relevant proposition is “The customer is always a co-creator of value: There is no value until an offering is used, experience and perception are essential to value determination.”

This proposition clearly shows that SDL is not about goods but about processes. Goods are regarded as “intermediate products” (Vargo and Lusch 2004, p. 7) that are used by customers in the process of value creation. For that reason, Vargo and Lusch argue that all economies are service economies even when goods are involved.

The core idea of this theory is that customers are active players. This requires a new set of skills to adapt, use and maintain the offering (Vargo and Lusch, 2004). Key to the customers’ ability to create value is the amount of information, knowledge and skills they can access and use (Normann 2001). Thus, value proposition can be facilitators in the co-creation of experiences by explaining the individual ‘value in use’ instead of mere product features.

Co-creation and value propositions

Ramaswamy and Gouillart (2008) affirm that value propositions in experience environments should be defined by “co-creating strategy with their customer-facing employees and their customers” (Ramaswamy and Gouillart 2008, p. 9). Therefore they outline three principles: Firstly, an organisation must overcome their product-focused thinking to see how customers experience value. This is the basis for formulating a compelling value proposition. Secondly, Ramaswamy and Gouillart argue that organisations need to shift focus from processes to interactions since flexibility is required to involve users.
Prahalad and Ramaswamy (2000, 2004a) developed a model that supports this change by proposing four basic blocks that build the platform to cultivate a co-creative environment. These pillars are dialogue and interactivity, access to information and tools, risk assessment, and transparency. Apart from this model there is, as Payne et al. (2008) confirm, hardly any concrete help for organisations concerning the conditions and modalities of user co-creation.

The third principle for value proposition innovation presented by Ramaswamy and Gouillart is customer involvement. The authors emphasise that customer engagement is essential for developing capabilities in value co-creation. In conclusion, they state that strategy becomes a continuous process and a joint effort of employees, customers and all other stakeholders.

Co-creation and the experience economy

Pine and Gilmore (1998), describe the co-creation phenomenon from a different perspective. The authors argue that the experience economy is the next step in progression of commodity, goods and service economy. Experiences are, among other criteria, personal and reach different levels of customer participation and connection. Similarly, Prahalad and Ramaswamy (2000) describe an emerging concept for value creation where value resides in personalised experiences instead of the old paradigm that “sees value as created from goods and services” (Prahalad and Ramaswamy 2004a, p. 172). Thus, firms need to create ‘experience environments’ that facilitate a diversity of co-creation experiences. This suggestion is in line with Rowley et al. (2007) who notice the emergence of experience marketing and show similarities with Arnould and Thompson's (2005) Consumer culture theory (CCT) which claims that value is not inherent in a product but in the experience of consumption. Besides the focus on consumption, CCT emphasises the cultural context of consumer behaviour as well as cultural meanings.

Co-creation on user-generated content websites

Since new information and communication technology is regarded as a facilitator of value co-creation, online environments in general and user-generated-content (UGC) websites in particular are leading today’s co-creation practises. In addition to the social dimension, technical features facilitate positive user experiences. Di Gangi and Wasko (2009, page
10) describe these websites as “online environments where organisations create a platform for users to co-create value with the organisation and fellow users through the contribution of UGC (e.g. photos, videos, blogs, etc.).” Following this definition, UGC websites are a tool for organisations with a co-creation based business model to connect with users. Thus, the technical platform is a facilitator of user experiences. Technical features can either enhance or constrain the experience in terms of personal meaning and user involvement and are, thus, regarded as capabilities.

Besides technical features, social interaction shows a firm’s openness and willingness to connect and collaborate (Prahalad and Ramaswamy 2004b). The interplay of technical and social factors is reflected in socio-technical theory. Both dimensions influence the user experience and should, thus, be both considered in the design process (Clegg 2000). Apparently, only positive user experience fosters user engagement and, in consequence, mutually beneficial value creation. In online environments value is intangible and volatile in nature and depends on user interaction. Thus, continued user engagement is essential to gain sustainable benefit from co-creation.

For organisations, user interaction can result in economic benefits such as ad revenue, customer knowledge or the opportunity of a new marketing channel, however, the premise of co-creation is only fulfilled when both the organisation and users benefit. The underlying concept how value is created and captured is defined in a firm’s business model.

2.2. Definition of business model and strategy

A business model is a simplified representation of how a firm buys and sells products and services. Thus, the model helps understand how a business creates revenue by describing the value offered, the customer targeted as well as the firm’s infrastructure and partner network.

Developing a business model is actually the second step after formulating strategy because strategy “[...] is an integrated and coordinated set of commitments and actions designed to gain a competitive advantage [...]” (Hitt et al. 2003, p. 98). Following this definition, a business model is a firm’s implemented strategy, translating the vision into revenue sources, cost drivers, customer relationship and critical success factors. Thus, business model and strategy deal with similar issues but on different levels.
Osterwalder (2004) visualises this idea by using a multiple business layers.

![Business Layers Diagram](image)

**Graph 1 Business layers, Osterwalder (2002)**

Strategy has a broad view that goes beyond the firm’s borders and takes the environment into account. Strategy formulates the source of differentiation and competitive advantage while the business model translates this into a concrete statement about target customers, a value proposition and the firm’s core capabilities. This relation can also be found in Luecke (2004, p. 2): “[…] a business model identifies your customers and describes how your business will profitably address their needs. Strategy, on the other hand, is about differentiating how your business satisfies customers.” This differentiation needs to be kept in mind when discussion how co-creation impacts businesses. Following Osterwalder’s pyramid, the case study will first analyse the present strategy, aiming at reveal strategic co-creation opportunities.

### 2.3. Co-creation as matter of strategy

With the emergence of co-creation, some researchers see the performance of a firm directly linked to the performance of its relationships, and call for a third perspective. They want to add relationships to suppliers, partners and customers as third unit of analysis (Dyer & Singh 1988, Storbacka 2007). This third perspective is meant to account for the customers’ influence on the “definition and implementation of strategy” (Storbacka 2007, p. 11). Prahalad and Hamel’s theory of the core competence of the corporation (1990) confirms the increasing relevance of relationships. Moreover, Allee (2000) demands reconfigured business models that account for the growing importance of knowledge and intangible value exchange in business relationships.

However, whether analysis on the industry and firm level can cover the growing influence of the customer remains unanswered so far. To approach this question, the two
established perspectives are applied to the case paying particular attention to problems linked to the high degree of complexity and unpredictability of co-creation settings.

2.4. Co-creation as matter of business models

Following Magretta (2002), business models matter because they provide a tool to revise a business’s underlying logic in terms of logic and simplicity. These two factors are regarded as the basis of any successful business. Magretta further describes business models as a variation of the value chain or, in a broader sense, the value creating system, consisting of two parts. It involves firstly, all activities concerning production, from design to manufacturing. And secondly, all activities associated with selling, such as targeting and reaching customers.

While Magretta points out the necessity of business models, the term’s exact definition is still subject of discussion. Luecke (2004) cites Hamermesh and Marshall who state it was “a summation of the core business decisions and trade-offs employed by a company to earn a profit.” According to the authors, these decisions embrace four dimensions: Revenue sources, cost drivers, investment size and critical success factors.

Business model components

Researches place a focus on components of business models and how these are inter-related. Osterwalder (2004) developed a synthesis of the different conceptualisations into a single reference model based on the similarities of a large range of models. His business model ontology provides a framework for business model analysis and covers four main areas, infrastructure, offer, customer and finance, with a total of nine building blocks that together shape the business model (graph 1).

Graph 2 Nine building blocks of business models, Osterwalder (2004)
Even though the components in Osterwalder's business model ontology are interdependent, one could argue that active customer participation, as it is implied by co-creation, challenges existing concepts and calls for more adaptive models.

Hedman and Kalling (2003) claim that traditional business models might be affected by emerging more interactive business models, for example in online environments; however, they only see minor changes in causalities between business model components. This conclusion concurs with Porter (Porter 2001, 2008), who states that his Five-Forces strategy model as well as his Value Chain concept remain valid in rapidly changing and increasingly complex environments.

**A system approach to business models**

Instead of discussing single components and their relative weight, Langdon (2003) emphasises the importance of a holistic approach by claiming that a business model is a “comprehensive description of business as an integrated system functioning in an intimate relationship with the broader market. In this concept, the individual components of an organisation do not matter as much as the way they work together to enable the organisation to create value and deliver it to customers.” This perspective is again consistent with Magretta (2002) who points out the importance of the “story” or logic behind any successful business model. This holistic approach facilitates adapting business models to changing needs since the focus is directed to the jointly created experience rather than to the optimisation of single components.

Gordijn and Akkermans (2001), who examined e-business models, emphasize the need to integrate the customer value perspective in business models.

**The customer value perspective**

Definitions of customer value vary from simply identifying product attributes to understanding the consequences of consumption experiences. According to Woodruff (1997), definitions based on the consequences of the attributes are more efficient, because they reveal the value-in-use perspective. The customer value perspective is represented in business models by the value proposition. The proposition captures the buying motives; however, “the enterprise can only offer value propositions; the consumer must determine value and participate in creating it through the process of co-production”
(Vargo and Lusch 2004, p. 11). Because customers define value, firms can only support customers in their value-creating activities by making value propositions.

There is no single widely approved definition for a customer value proposition (Anderson et al., 2006); however, many authors agree on two issues: a customer value proposition should be defined from the customer perspective, and it has a key strategic role within the organisation in pursuit of competitive advantage (e.g. Anderson et al., 2006; Webster, 1994). In addition, Prahalad and Ramaswamy (2004) as well as Vargo and Lusch (2004) emphasise that customer value is highly experiential and interactive in co-creative environments.

Langdon (2003) claims that relationships are the pivot of value creation, a conclusion that has also been a key take-away from the literature review on co-creation. In consequence, competitive advantage is a result of understanding, preserving and enriching relationships. Since relationships are volatile, organisations must refresh experiences (Pine and Gilmore 1998) in order to keep a desired level of involvement and excitement.
3. Methodology

This thesis is grounded on a single case since this approach aims at adding to the body of knowledge by confirming or challenging existing theory, generating theory or providing description of a unique case (Yin 2003, Eisenhardt 1989).

In general, case studies are a preferred methodology when asking how or why questions (Yin 2003). Exploring these questions requires a holistic in-depth investigation that reveals details by examining one or multiple cases and using multiple sources of data (Eisenhardt 1989). According to her, case studies combine various data collection methods such as interviews, surveys or archives. The resulting data might be qualitative, quantitative or both.

The process of building theory by using cases is meanwhile a specified procedure of definite steps (Yin 2003). Earlier, case study methodology was being criticised for not being replicable, and thus unscientific. Eisenhardt (1989) points out that due to the defined procedures, case study research is as sophisticated and tested as in any other scientific field. Nevertheless, the researcher's individual experience remains a key factor in case studies what makes each case unique.

3.1. Executing case studies

Eisenhardt (1989) suggests distinct steps for executing case studies which will be adapted to serve as guideline in this thesis:

The first step is to broadly define the research question. Preliminary to the thesis, a proposal was published that fulfilled the purpose of clarifying the research focus and aims of the thesis by specifying the topic, describing methods, and predicting problems and outcomes (Appendix 1). Moreover, the chapter research question (1.2) picks up this issue. Extensive relevant readings presented in the literature review (chapter 2) helped specifying definitions and delimiting the concept of value co-creation. The review also serves the purpose of discovering problems in any phase of the study in advance (Tellis 1997). However, as Eisenhardt (1989) states, unforeseeable events can change the focus during the study and the preliminarily picked theories may bias or limit the findings.
The second step is case selection. In a single case study the selection of the case is crucial and based on the research intention. A case may be chosen because it fulfils certain categories or is a unique or extreme example. Thus, random selection as in statistical sampling is not reasonable.

The special interest community DDU was chosen as the basis for research for various reasons:

- In contrast to other online communities, DDU is able to provide a profitable business model which serves as a solid starting-point for new product innovation and allows conclusions how co-creation impacts business models.
- At the same time, DDU has been consistently committed to product innovation, pushed by the experienced community leader, one of German's leading brains in Social Media.
- DDU already has a close and intimate relationship with its most active community members. Thus, the user-facing employees at DDU have experience in customer interaction and can support customer engagement.
- DDU is, in Germany, closely linked to the popular computer magazine DISC. Porter (2001) describes that “Internet brands have also proven difficult to build, perhaps because of the lack of physical presence and direct human contact makes virtual businesses less tangible to customers than traditional businesses” (Porter 2001, p. 69). In this way, DDU enjoys a clear competitive advantage, since linking existent products to online offerings, as a way to extend content or add value to it, can be less difficult than coming up with a completely new brand for the Internet.

Crafting instruments is the third step. Usually various methods for data collection (chapter 6.2) are used, such as interviews, observation, archives or questionnaires. In the present case, interviews will be complemented by company and industry analyses. Tellis (1997) points out the importance of interviews as a source of information in case study research. There exist various forms of interviews, such as open-ended, focused or structured interviews.

In cases of new product development, the pronounced goal is active knowledge creation. Only open interview approaches seem reasonable because structured methods are assumed to limit creativity and mental scope. Thus, to fully exploit the potential of co-
creation in early development stages, the setting is meant to give leeway to the participating lead users.

Eisenhardt (1989) emphasises the potential in combining of qualitative and quantitative data. While qualitative evidence is valuable because it can be vivid and delightful, quantitative data can help to not overrate exceptions and extremes. However, there is no possibility to collect quantitative data here. Instead, insights gained from the lead user interviews will be presented to a broader mass of test-users later in the development process, shortly before the actual product launch. While test-user feedback will still be qualitative, the intention is to verify the findings from the precedent in-depth interviews.

In step four, data analysis (chapter 6.4) usually follows data collection; however, one could argue for an overlap in collection and analysis. By flexibly adjusting data collection methods based on the first findings, researchers can gain new theoretical insights. While in multiple case studies changes can cause far-ranging consequences affecting all included cases, single case studies such as the DDU case are predestined for such flexible adaption. Thus, this research explicitly aims at overlapping data collection and analysis in order to fully exploit the potential of single case studies.

Eisenhardt (1989) calls step five within-case data analysis (chapter 6.3). This is a particularly interesting phase since it fills the usually huge gap between data and conclusions. Readers can, in the majority of cases, hardly reconstruct how researchers form theories from data. To allow for coherence and logic operations, Eisenhardt's advice to incorporate the so called within-case data analysis will be followed (see chapter 6.3). This part contains detailed reports which increase the study's traceability through their descriptive nature.

When shaping hypotheses in step six (chapter 6.6), the evidence gained through the process of data collection will be again compared with existing theory. The examination of both similar and conflicting theory will help to substantiate the study's findings and is supposed to enhance the theoretical level. This process is highly iterative and reaches closure when the improvements made become minimal. However, in a real life case like this, the stage of conclusion is also determined by practical issues such as time.

Summing up, the potential of a single case study is its flexibility and the possibility to gain deep insights that are particularly valuable when the research aim is explanatory.
Explanatory means trying to answer ‘how’ questions (Yin, 2003) just as in this particular case that explores how business models are influenced by co-creation processes. Following specific guidelines, for example Eisenhardt (1989) or Tellis (1997), helps carrying out case studies in a scientific manner. However, a single case study always runs the risk of lacking an overall perspective and generalisability. The specifics of the case can bias the outcome, particularly if the researcher is inexperienced. Having this research method’s weaknesses in mind should, though, help avoiding these mistakes.

3.2. Ladder interviews

The DISC case study is mainly based on in-depth interviews with a small group of selected lead-users. Aiming at understanding customer behaviour and motives, the qualitative research technique called laddering is chosen for this purpose. According to Søndergaard (2005), laddering is a common method of gaining customer knowledge, particularly in early stages of new product development. The approach allows examining customer value according to the model of means-end theory (Modesto 2006) and studying linkages between consequences and personal values (Gutman 1991). By this means, laddering is a viable technique for market-oriented product development. Due to its focus on customers, laddering can contribute to develop sustainable success (Modesto 2006).

Modesto (2006) points out the differences of two laddering techniques, traditional (soft) laddering and hard laddering, and, moreover, provides an overview of basic steps and common barriers.

Hard laddering is a more structured approach than soft laddering and, thus, requires fewer skills from the interviewer. Respondents are forced to give answers in a sequence that reflects increasing levels of abstraction. This standardised approach saves time, costs and decreases researcher influence. However, according to Grunert and Grunert (1995) soft laddering should be preferred when the respondents have little experience with the product, for example given that laddering is used for new product development. Søndergaard (2005) stipulates that means-end concepts (like laddering) are particularly valuable in early stages of product development as they provide deep knowledge about consumers on an abstract level. In his view, the laddering technique provides a guide to stay market-oriented in the product development process.
Conducting a ladder interview starts on the product attribute level. Starting points include defining points of difference, or, if no comparable offer exists, describe the use situation. By this means, value dimensions that are personally meaningful to the respondent are identified. The line of questioning then proceeds from product attributes to consequences of product use. By asking “Why (is this product attribute/consequence important to you)?”, the respondent is stimulated up a ladder of abstraction until the value level is reached. During this process, questions should be repetitive and interactive (Modesto 2006). Due to its focus on consumers, Modesto regards this approach is a viable technique for product planning, customer segmentation, product positioning and might possibly also help detecting problems with a product or brand.

However, a number of barriers exists that may impact the outcome of ladder interviews negatively (Modesto 2006). The most important hurdles and advice how to overcome these barriers, is summarised in the table below.

<table>
<thead>
<tr>
<th>Barrier</th>
<th>Approach to overcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time consuming, expensive (Long process with repetitive questions that require patience from interviewer and respondent)</td>
<td>Elucidate procedures but respect individuals’ limits, maybe use focus groups instead of individual interviews</td>
</tr>
<tr>
<td>Artificial set of answers (Respondent may want to impress the researcher or feel that the questions are too personal)</td>
<td>Use trained interviewers who ask respondents to give examples and check the plausibility of answers. Assure anonymity.</td>
</tr>
<tr>
<td>Researcher biases (Impact of the researcher’s personal attitude and expectations)</td>
<td>Involve a group of researchers; discuss the process, questions and conclusions. Check the researcher’s interpretation of collected data with the respondent.</td>
</tr>
<tr>
<td>Simplistic analysis of results (Focus on positive attributes, consequences and values)</td>
<td>Use supplementary methods of data collection. Compare own findings with existing literature. Ask questions negatively instead of positively.</td>
</tr>
</tbody>
</table>

Table 1 Barriers in ladder interviews, Modesto (2006)

As any other qualitative research method, laddering runs the risk of being complex, laborious and highly manipulable. However, as the table clearly shows, barriers can be
reduced to a minimum, making laddering a practicable approach in new product development, for example for product planning, segmentation or positioning.

Laddering reflects the basic concept of co-creation, providing a guide for customer-oriented new product development and a guide to explore customer key wants and motives (Gutman 1991).
4. Research models

Case studies allow multi-perspective analyses (Tellis 1997). By looking at one case from various angles, this approach helps to understand the dynamics of specific settings. In strategic management, two approaches are often used complementarily allowing for multi-perspective analysis. Considering both the industry and the firm level is supposed to provide a holistic view on a specific setting.

4.1. Resource-based view (RBV)

As discussed previously in this chapter, the established analysis methods for the firm and industry level will serve as research models for this case study. The resource-based view serves as theoretical guideline because it is regarded “a compelling argument for the pivotal role of resources in creating value for the firm” (Perks 2004, p. 38). Exchange of tangible and intangible resources is also in the centre of co-creation. Thus, the concept of co-creation seems to be closely linked to the resourced-based view.

Examining the status quo of resources and capabilities using the resource-based view is supposed to help identifying a firm’s strengths and weaknesses. These results, again, might reveal opportunities for co-creation projects.

In contrast to the industry analysis, the resource-based view emphasises a firm’s own strengths and weaknesses in relation to external opportunities and threats. Analysing resources and capabilities gives an overview of existing assets. According to Collis and Montgomery (2008), possessed resources enable a firm to perform activities better or cheaper than rivals. These can be physical assets such as a prime location, intangible assets for example a strong brand, or capabilities like an extraordinarily efficient manufacturing process. From this perspective, the allocation of existing resources is the key to add value for customers and differentiate from competitors. In the context of co-creation, it is of particular interest to determine resources and competencies on which emotional value is based.

This so called inside-out view focuses on the inside of the firm, on finding unique resources, capabilities and competencies. Usually, qualitative methods are used to identify a firm’s specific bundle of assets (Hoskisson et al. 1999). The objective of this
approach is to understand the role of resources and capabilities in strategy formulation and the differences between tangible and intangible resources.

First of all, it is necessary to define the terms resources and capabilities. Generally speaking, resources are the input to a firm's production process and can be either tangible or intangible, or human resources. Capabilities are the ability to deploy resources to achieve a goal, for example management, marketing or sales. However, environments change rapidly, calling for dynamic capabilities.

**VRIS Analysis**

Resources and capabilities that provide a source of competitive advantage may be determined by conducting a VRIS, sometimes also called VRIN, analysis. The VRIS analysis looks ahead and shows whether the previously defined strategic resource or capability can be a source of sustainable competitive advantage by matching four characteristics: valuable, rare, inimitable and non-substitutable (Collis and Montgomery 2008, Barney 1991).

<table>
<thead>
<tr>
<th>Valuable</th>
<th>Rare</th>
<th>Inimitable</th>
<th>Non-substitutable</th>
<th>Competitive consequence</th>
<th>Performance implications</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Competitive disadvantage</td>
<td>Below average returns</td>
</tr>
<tr>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Yes/No</td>
<td>Competitive parity</td>
<td>Average returns</td>
</tr>
<tr>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Temporary competitive advantage</td>
<td>Average to above average returns</td>
</tr>
<tr>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Sustainable competitive advantage</td>
<td>Above average returns</td>
</tr>
</tbody>
</table>

*Table 2 VRIS analysis, Hit, Ireland and Hoskisson 2003*

After identifying a firm's assets and appraising them according to the VRIS dimensions, strategic implications can be developed that embrace both improving the existing strengths as well as defining how to handle weaknesses (Grant 2005).
In the context of co-creation, Dyer and Singh (1998) suggest four areas of capabilities that are assumed to serve as sources of competitive advantage: Relation-specific assets, knowledge-sharing routines, complementary assets and effective governance.

In contrast to the industry analysis, this resource based model is grounded on the assumption that differences in performance are caused by unique resources and capabilities. Proponents argue that “the greater the rate of change in a firm’s external environment, the more like it is that internal resources and capabilities will provide a secure foundation for long-term strategy” (Grant 2005, p. 134) because firms in technology-driven industries are built around certain technological capabilities.

4.2. Industry analysis

To complement the strategic view, the results from analyses on the firm level are extended by a broader view. In this case, industry analysis is used to refine co-creation plans.

When crafting a strategy, industry analyses such as PESTEL or Porter’s Five Forces can help identifying opportunities and threats and defining how to meet with the industry conditions. This outside-in view is based upon two assumptions, firstly the idea that pressure is imposed on firms by its external environment, and secondly the assumption that strategies and resources are similar within an industry. According to Porter, a firm’s behaviour is primarily a result of its environment and in consequence, performance can be explained by structure (Hoskisson et al. 1999). In Porter’s view, a firm can gain competitive advantage mainly by positioning itself well in the industry (Porter 1996).

Porter’s five forces model

To determine this ideal position, Porter developed the five forces model. The five forces are the threat of potential entrants, the threat of substitutes, the bargaining power of suppliers, the bargaining power of buyers, and rivalry among existing firms in the industry (Porter 2008).
These clearly specified elements embody the competitive structure and make Porter's model a useful and easy-to-use analytical tool to assess industry attractiveness. Understanding how industry structure drives competition and affects profitability helps identifying key success factors. When crafting strategy from these findings, Porter suggests categorical strategies based on two types of competitive advantage: Differentiation or cost-leadership. While differentiation emphasis branding, design, service and quality, cost leadership means tight cost control. His concluding advice is to avoid being stuck in the middle (Porter 2008).

One could, however, argue that business specifics determine business performance and, thus, disagree with Porter. McGahan and Porter (1997) confirmed the industrial economics (IO) concept, spotlighting the importance of positioning as the driver of a firm's economic performance. Moreover, they found that industry effects have a stronger impact on performance in service industries than in manufacturing industries.

**PESTEL analysis**

Another approach to analysis on the macro level is a PESTEL analysis. With market trends being one of the major drivers of business model innovation, identifying changes in customer needs becomes crucial. This so called market sensitivity (Conte 2008) can
be fostered by conducting a PESTEL analysis. PESTEL stands for: politics and government, economy, social and demographic structure, technology, environment, and legal structure. Major impacts may result from combined effects from multiple areas. Analysing the macro environment and the possible impacts of external influence factors can serve as a basis for developing future scenarios with different business models (Hoskisson et al. 1999).

Revealing major trends and the interplay of multiple factors early is doubtlessly valuable for organisations. However, not all factors may be equally relevant. Kijl et al. (2005) suggest focusing on the impact of technological developments and legal or regulatory issues when examining business models, particularly in innovative, dynamic fields such as online or mobile services.

Combined, industry analysis and the resource-based approach cover the four dimensions of a SWOT analysis: strengths and weaknesses are identified using a VRIS analysis, and opportunities and threats are revealed by conducting Porter's five forces and/or PESTEL analysis. Moreover, integrating these analyses provides strategies for exploiting strengths by reacting on opportunities and avoiding threats by minding weaknesses. According to Barney (1991), this integrated framework eventually shows firms how to gain and sustain competitive advantage.

<table>
<thead>
<tr>
<th>Internal analysis</th>
<th>External analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strengths</td>
<td>Opportunities</td>
</tr>
<tr>
<td>Weaknesses</td>
<td>Threats</td>
</tr>
</tbody>
</table>

Graph 4 SWOT analysis, Barney (1991)

4.3. Co-creation business processes

Recalling the business layer model (Osterwalder 2004), the previously introduced industry analysis and resource-based approach are resident in the strategy layer. However, the case study also deals with the lower levels of this pyramid. Following the
main research question, there are tools, methods and frameworks required to identify potential co-creation projects, processes and partners. Again, established models will be used to detect where new approaches are required and where traditional models need to be adapted to the increasingly complex and interactive environment.

**Segmentation**

In traditional business settings, markets are usually divided into segments. A segment is a specific group of customers with similar needs, purchase behaviour and characteristics. Forces that influence customer needs may vary between consumer and business market; however, in this particular context the force that shapes customer need is regarded to be usage behaviour, not demographics or lifestyle (Best 2004, chapter 5).

Resulting from the segmentation process, firms also need to adapt their organisation so that it can serve the different segments more efficiently. This process includes staffing the organisation at the optimal level, rightsizing the sales force and identifying and communicating new roles (Waaser et al. 2004).

Best suggested a seven step process to attain a needs-based segmentation. While this model will be used as a guideline in the later stages of this thesis, the question remains how definite segmentation can be in an experience-driven co-creation environment.

<table>
<thead>
<tr>
<th>Needs-Based Segmentation</th>
<th>Group customers into segments based on similar needs and benefits sought</th>
</tr>
</thead>
<tbody>
<tr>
<td>Segment Identification</td>
<td>Determine which characteristics (demographics, lifestyles, usage behaviours) make the segment meaningfully different from another</td>
</tr>
<tr>
<td>Segment Attractiveness</td>
<td>Determine overall attractiveness of a segment using predetermined criteria (market growth, competitive intensity, market access)</td>
</tr>
<tr>
<td>Segment Profitability</td>
<td>Determine profitability using Net Marketing Contribution (NMC)</td>
</tr>
<tr>
<td>Segment Positioning</td>
<td>Create a value proposition and product-price positioning strategy based on the segment’s unique needs/characteristics</td>
</tr>
<tr>
<td>Segment Acid Test</td>
<td>Create segment storyboards and let potential customers chose one to test whether the developed position strategy fits their needs</td>
</tr>
<tr>
<td>Marketing Mix Strategy</td>
<td>Expand segment positioning strategy to entire marketing mix</td>
</tr>
</tbody>
</table>

Table 3 Need-based segmentation, Best (2004, chapter 5)
**Value proposition**

The seven step segmentation process presented by Best (2004) suggests defining avalue proposition for each customer segment. Analysing and crafting value propositions may be done according to the framework presented by Anderson et al. (2006). The authors constitute three different value propositions. The so-called “all benefits” value proposition means listing all benefits the customer will receive. This approach requires knowledge of the own offering but neither about customers nor competitors. Moreover, there is no differentiation between points of parity and points of difference. According to Anderson et al. (2006, p. 94) “points of parity are elements with essentially the same performance or functionality as those of the next best alternative,” while “points of difference are elements that make the supplier’s offering either superior or inferior to the next best alternative” (Anderson et al. 2006, p. 94). The second approach is called “favourable points of difference” and focuses on differentiating from the next best alternative. While this approach requires a deep knowledge of the alternative offering, the value of the point of difference for the customer is not respected. Thus, the third option, “resonating focus”, is regarded the most sophisticated approach by making the offering superior on the few elements that matter most to the customer. This approach may include points of difference and points of parity if required by the customer. Therefore, customer value research is necessary.

Taken that value propositions reflect what customers value, one can capture the essence of a value proposition using Woodruff’s customer value hierarchy model (graph 5) (Woodruff 1997). According to Woodruff, customers evaluate the value received according to the desired attribute, consequence, and goal structure that they have in mind at that time. This model is regarded a valuable tool to translate customer needs from abstract goals to concrete product attributes. Woodruff suggests “top down” product development, translating customer values and end benefits into product attributes. On the other hand, in customer value research, the opposite approach is often used: by using a ladder of increasingly abstract dimensions, researchers can explore the needs customers seek to fulfil when using a particular product.
The three value dimensions are accompanied by three levels of customer satisfaction. However, Parasuraman (1997) questions the relevance of the distinction between value and satisfaction in practice.

### Graph 5 Value hierarchy, Woodruff 1997

#### 4.4. Customer segmentation

While Best (2004) suggests need-based segmentation, his description how to reach this type of customer classification remains generic and rather vague. Woodruff (1997) presents a precise model, defining the different types of needs customers seek to satisfy. Following his view, consumers aim at reaching satisfaction on three levels of increasing abstraction by receiving value in three equivalent value dimensions (chapter 4.3). Thus, I split Best’s first step in the segmentation process, the so-called needs-based segmentation, into three sub-categories following Woodruff’s (1997) concept: customers’ goals and purposes, desired consequences in use situations, and desired product attributes. The value hierarchy is a comprehensive classification, providing clear delineation of the various value dimensions.

In a later stage of Best’s segmentation model, he calls for positioning based on value propositions. Here, I refer to Anderson and Narus (2006) who describe in detail which elements value propositions may have: points of parity and points of difference. They
also argue that good value propositions have a resonating focus, making the offering superior on the few elements that matter most to the customer.

This adapted model for customer segmentation comes is applied in this case study’s value research, chapter 6.1.
5. Business case

DISC Online GmbH is a subsidiary of an international media group. DISC Online operates and markets the international download platforms Download.DISC.eu (DDU), Download.DISC.asia as well as the German online platform DISC online (www.DISC.de) which incorporates the mobile platform Xonio.com.

The network of web portals operating under the name DDU arose from subsidiaries of an international holding spread across Europe. The holding has been a strategic alliance of two German media groups serving the purpose of publishing special-interest, country-specific print and online content with a focus on information and communication technology. In 2007, one partner bought the other and started a process of transforming the subsidiaries into limited liability companies. With the acquisition, the DISC brand that formerly belonged to one partner devolved to the other.

The online platforms avail themselves of the brand name DISC which is, in Germany, associated with a well-known, 1978-launched computer magazine that is renowned for product tests and purchase advice (Plica 2010). Today, the magazine is published in 17 countries across Europe and Asia. While DISC Online (www.DISC.de) is the national online presence of the DISC print magazine and thus editorially lead, the DDU platform (download.DISC.eu respectively download.DISC.asia) is community driven and internationally oriented.

DDU calls itself the “International download community from DISC Online”. However, compared to other download platforms, DDU centres on Europe, aiming at becoming the “largest special interest community in Europe” (Download.DISC.eu 2010b) while competitors often target the United States. The platform is localised for ten Central and Eastern European countries: Germany, Great Britain, Italy, the Netherlands, Hungary, Czech Republic, Poland, Romania, Russia and Turkey (www.DISC.eu). In addition, there also exist two Asian websites (download.DISC.asia) which are localised for India and China.

Offer

Users can download software for free and community members can recommend software that will be reviewed by an editorial team and eventually incorporated into the
common database. The editorial review process ensures that downloads are both viable and virus free. Moreover, users can read editorial content as well as user-generated reviews, or become members and write reviews or ask questions themselves.

Current statistics from Germany’s public broadcasting corporations ARD and ZDF concerning media usage patterns reveal that downloading files and participating in forums is particularly popular among young Internet users between the age of 14 and 19 (ARD ZDF Onlinestudie 2009).

Members also contribute to the community by recommending software updates and translating tool descriptions into their native language. By this means, both the editorial team and the community members are responsible for keeping the content up-to-date and expanding the community. For their community activities, members are awarded with points that increase their chance of winning in the internal lotteries.

**Finance**

DDU creates revenue exclusively from online advertisement since there are no premium accounts or paid content offerings. Their revenue model for online ads is pay-per-click (PPC) which means that advertisers pay for performance, in this case clicks, on their banners. According to the community manager Thomas H Kaspar, cost-per-mille (CPM) are rather low for this kind of websites, thus, profit can only be made by optimizing the click-through-rate (CTR) while at the same time keeping cost low.

The major cost factors are storage, bandwidth and labour costs. In this regard, DDU benefits from economies of scope since the twelve European and Asian localised country platforms all hark back to a common title database. By this means, labour costs for reviewing and approving suggested tools can be minimised, exploiting synergy effects. However, the impact of economies of scope is limited by the users’ willingness to accept English, preferring content in their mother tongue. For that reason, particularly Scandinavian and Eastern European country platforms can leverage economies of scope because their users are used to English content, thus, less adaption is required.

**Customers**

The download portals target consumer markets. Today, DDU has approximately 1.5 million registered users and offers 150,000 downloads. DDU's target group are young, IT
savvy men who are divided into three customer segments (Kaspar 2010). In accordance with Prahalad and Ramaswamy (2000) DDU creates opportunities for customers to choose their level involvement themselves. For a better understanding of the different levels of involvement, DDU uses a so-called persona concept that exemplifies the segments with three personal profiles of imaginary idealised users (Kaspar 2009). It is important to notice, that users of DDU can participate in DISC Online’s forums with their DDU account and vice versa. Thus, the persona concept applies to both online presences.

Inhabitants are assumed to be active exclusively on DISC Online. Their interest is the portal itself, thus, they tie their activities to DISC Online, maintaining and enhancing the community. DDU’s community managers have personal relationships with some of these approximately 50 users.

Heavy users are interested in a specific topic and are well acquainted with a certain subject. They are regarded as experts and regularly generate reliable content. On DISC Online, there are approximately 500 heavy users/experts.

Visitors enter DISC online primarily to read existing editorial and user-generated content. This group embraces Google referred visitors as well as so-called brand visitors who know the offer and enter the URL directly. Worldwide exist approximately six million visitors of which 60 to 70 per cent are Google referred visitors.

**Infrastructure**

The various local DISC.eu download platforms are closely connected and share their editorial content as well as the title database; moreover, the German site also works together with the German DISC Online magazine site. By this means, the entire platform network benefits from DISC Online’s 14 years of online experience. Resulting from this partnership, the content creation process is often initiated by DISC Online or the German DISC.eu platform and is then translated into English before being passed on to all other countries. The strong partnerships allows exploiting content several times what creates a cost advantage for all participants as well as mutual learning.

Editorial content creation usually means packaging selected tools as “editorial specials”. In doing so, an editorial team picks a limited number of tested tools, adds descriptions
and provides a screenshot gallery. These packages are usually presented on various local DISC.eu welcome pages.

5.1. Industry analysis

The following industry analysis has the objective to show what drives competition and in consequence reveal the key success factors. It also allows forecasting trends in the industry and, thus, gives an indication for DDU's future profitability. Analysing the company on a strategic level is not only necessary due to strategy's super-ordinate position according to Osterwalder's business layers (Osterwalder 2004) but also to fully understand the specifics of value networks on both the industry and firm level.

The initial step is the definition and classification of the respective industry. From a product perspective, DDU offers free downloads. While the integrated social networking functions extend DDU to a community, these features are regarded as a point of difference, not an industry characteristic. From the community perspective, DDU and all its competitors can be described as special interest profile-centric sites; this term is suggested by Boyd and Ellison (2007) as contrast to the big general interest communities. However, community features are, again, not included in the industry definition.

The fact that users, not only software developers, can suggest uploads is also not considered a criterion in order to avoid defining the industry too narrowly. The stipulated term for the industry is “free download platforms”, indicating that DDU's competitive environment includes platform operators that offer a broad collection of software which can be downloaded without any directly associated cost, e.g. software price or membership fee for the community. They all compete for page views or visits.

Existing competitors

Among all examined free download platforms, there exist two distinctive features. Firstly, some portals allow user suggestions while others only provide software developers the possibility to present their own products. This is regarded as a main distinctive feature, influencing who operators focus on as suppliers. Secondly, few portals offer premium accounts. The paid offer either targets software developers, offering a faster activation of uploaded software, or users, offering faster download speed.
Even though the geographic scope of competition is not limited, the following table shows figures for Germany separately. Since the examined platforms don't target the same countries, Germany is taken as a sample market to make figures comparable in at least some categories. The table presents key online data for the biggest free download platforms, focusing on areas that indicate how well search engines can find these sites. Back-links are references that direct to the respective platform, usually from another website. Many search engines, among them Google's PageRank algorithm, rate a website's relevance, among other factors, based on the number of existing back-links. Thus, the number of back-links is a determining factor for an individual website's value. Since approximately 60 to 70 percent of all visitors enter the DDU portal through Google (Plica 2010), optimising the platform for search engines is crucial. For that reason, other common operating figures such as average time on site or page impressions are less important in this context.

<table>
<thead>
<tr>
<th></th>
<th>Total visits*)</th>
<th>Unique visitors (est. cookies)*</th>
<th>Back-links**</th>
<th>Pages indexed**</th>
<th>Title database***</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>WORLDWIDE</strong> (International websites, numbers reflect visit(or)s from all countries)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>download.DISC.eu</td>
<td>6.700.000</td>
<td>5.500.000</td>
<td>296</td>
<td>3.400.000</td>
<td>116.000</td>
</tr>
<tr>
<td>download.cnet.com</td>
<td>97.000.000</td>
<td>72.000.000</td>
<td>9.280</td>
<td>2.500.000</td>
<td>80.000</td>
</tr>
<tr>
<td>softonic.com</td>
<td>67.000.000</td>
<td>46.000.000</td>
<td>6.540</td>
<td>33.000.000</td>
<td>180.000</td>
</tr>
<tr>
<td>softpedia.com</td>
<td>39.000.000</td>
<td>26.000.000</td>
<td>1.220</td>
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<tr>
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<td></td>
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<tr>
<td><strong>GERMANY</strong> (International websites, numbers reflect visit(or)s from Germany)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>download.DISC.eu</td>
<td>1.200.000</td>
<td>1.000.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>download.cnet.com</td>
<td>2.500.000</td>
<td>2.100.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>softonic.de</td>
<td>8.200.000</td>
<td>7.500.000</td>
<td>2.820</td>
<td>12.900.000</td>
<td></td>
</tr>
<tr>
<td>softpedia.com</td>
<td>1.300.000</td>
<td>840.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>filehippo.com</td>
<td>730.000</td>
<td>240.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>tucows.com</td>
<td>82.000</td>
<td>77.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>snapfiles.com</td>
<td>91.000</td>
<td>77.000</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
LOCAL COMPETITORS (German websites, numbers reflect visit(ors) from Germany)

<table>
<thead>
<tr>
<th>Softwareload.de</th>
<th>4.600.000</th>
<th>3.200.000</th>
<th>608</th>
<th>1.600.000</th>
<th>30.000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Winload.de</td>
<td>2.600.000</td>
<td>1.900.000</td>
<td>295</td>
<td>1.800.000</td>
<td>22.000</td>
</tr>
<tr>
<td>Freeware.de</td>
<td>2.400.000</td>
<td>1.900.000</td>
<td>786</td>
<td>264.000</td>
<td>27.000</td>
</tr>
<tr>
<td>Freeware-download.com</td>
<td>910.000</td>
<td>750.000</td>
<td>360</td>
<td>198.000</td>
<td>14.000</td>
</tr>
</tbody>
</table>

*) Google Adplanner (02/2010)
**) Google.com (02/2010)
***) Self-declaration (02/2010)

Table 4 Online (download) communities

While the global market is dominated by a few operators, local markets seem to be much more diversified, as the German market suggests. The numbers from the German market also reveal that numerous local actors hold large shares in their home countries but don't compete globally. Thus, one can conclude that competition takes place in local markets. The fact that other international portals localise their service in various languages and establish local offices also confirms this hypothesis. The competitive rivalry differs in each country; however, in general one could argue that it is affected by (broadband) Internet access. In this regard, the fastest growing markets are the Middle East and Africa, followed by Latin America, Asia and Europe, while the North American market is already more mature, according to the Internet world stats based on data from Nielsen Online, the International Telecommunications Union, the Gesellschaft für Konsumforschung GfK and others (Miniwatts Marketing Group 2010). In consequence, one can argue that competition is increasing in the United States and, in the near future, in Europe since it is not longer possible for all actors to grow in parallel. Besides considering the big players, platform providers must also be aware competitors that are small but offer a rich experience or innovative features since the dynamics of online environments allow innovators to grow rapidly.

Overall, there exist many consumers and producers whereof none has total market control. Since all portals are free and new users often enter the sites through search engines, platform operators strive for building user loyalty for example by creating communities in order to increase customer retention.

Besides search engine optimisation, platforms gain visitors through partnerships with popular web portals, for example news services. With this co-branding approach,
download providers gain visitors who are directed from their partners' download section. Softonic.de for example works with the newspaper website FAZ.net, email provider GMX and the German Internet portal Web.de. No matter how portals attract visitors, the main source of revenue is online advertisement. Compared to other online services, download portals face high cost due to the bandwidth and storage needed. Thus, only the top portals are assumed to be profitable and competition is rated fierce.

**Barriers to entry**

The previously mentioned high cost associated with bandwidth and storage are considered the main barrier to entry. While for other online services the initial investment costs are low, given the fact that only few physical assets such as servers, storage and network capacity solutions are required, this is not the case for download platforms. However, with cost for traffic decreasing and online advertisement growing, existing players from related markets may diversify their offering, increasing the number of competitors. In the course of horizontal integration, local players may internationalise their offering. In that case, strong brands may provide strategic entry barriers (Wirtz 2009). In consequence, technology can hardly provide a source of sustainable competitive advantage in such dynamic environments.

Even though the competitor overview showed that a broad title base is no grant for success, a critical mass must be reached in order to attract users. Particularly in the context of user-generated content, the benefit for each individual user increases with the total number of users. Thus, a sufficient number of active users is necessary to create an attractive offer. Building such a title and user base is regarded as a main barrier to entry that may prevent entirely new competitors from arising. Wirtz (2009) calls this barrier network effects. On the other hand, partnerships with other web services, such as news portals, facilitate reaching a critical mass of users and, thus, lower entry barriers.

In summary, there exist entry barriers which may deter small new providers from entering the market; however, switching barriers are low what means that there are potential new entrants from related areas who may be only few but powerful. Thus, one can reason that barriers to entry are medium.
Power of buyer and suppliers

The roles of buyer and suppliers are hard to define in this industry as users generate and consume content. This phenomenon is called prosuming, as it was introduced in chapter 1. Most download portals urge users to take advantage of their dense offering and create value for themselves, just as it is described by Normann and Ramírez (1993). For that reason they act as both, buyer and supplier.

In some rare cases download portals monetise their sites (partly) directly from software developers who pay for premium accounts that allow software developers to present online advertisement and guarantee a faster activation of uploaded tools. However, in most other cases users create revenue indirectly as their presence on the website results in advertising revenue for the website owner. To increase their attractiveness for advertisers, website providers try to improve their search engine page rank. Thus, I conclude that search engines are the actual bottleneck in this context since they channel the stream of visitors and are crucial for attracting users and, in consequence, advertisers. Bargaining power for buyers who are mostly advertisers in this case, is in consequence rated high, and there still is potential for the community sites to increase their attractiveness for advertisers by offerings ads adapted to personal preferences. This option benefits profile-centric portals.

Suppliers are users generating content, for example reviews, and software developers who upload their tool or just publish freeware. Both groups consist of individuals with no common voice. Therefore one can assume that individuals in this fragmented crowd have only low bargaining power; however, as a collective they can of course influence the download portal.

Threat of substitutes

Download platforms are a result of the ongoing media convergence trend, as described by Wirtz (2009). Instead of visiting several sites, platforms consolidate the websites of thousands of software developers, and add value by publishing editorial or user-generated content such as reviews. Thus, download portals are a relatively new phenomenon and substitutes are rare. In contrast, platform providers still enhance their offering for example with widgets that users can embed into their own websites.
Looking at related industries such as the latest generation of mobile phones, “App Stores” of web download portals.

As suggested by Kijl et al. (2005) (chapter 4), the PESTEL analysis in innovative, dynamic environments should focus on the most relevant aspects which are technological developments and legal or regulatory issues.

**Technology**

As a general trend in the fields of Internet and multimedia, Wirtz (2009) determined increasing pace of innovation. In consequence, technology and markets become increasingly complex. Two relevant areas of innovation are content curation and new ad formats.

Content curation is described by Gentle (2009) as making sense of content in an no longer provide relevant results due to the sheer mass of new or updated content. Thus, Bhargava (2009) assesses a need for a content curator “who continually finds, groups, organises and shares the best and most relevant content on a specific issue online.” Advances in technology such as network based filters allow content personalisation based on the preferences of an individual's network. By this means, content curation brings more usefulness to the social web by exploring new ways how to organise content and increase accessibility. Search engines, for example Google, try to add value to search results by grounding a page's relevance on behavioural measures such as Google analytics, Adsense and AdWords. Leveraging this search mechanism requires enriching aggregated content with user- or editorially generated content.

A second major online trend is new ad formats that replace traditional ad banners. Portal or community providers need to technically prepare their websites for the integration of emerging ad formats. In the course of this development, experts assume that pay for performance ads outpace display ads (Wirtz 2009). While paid content or other forms of user fees did not become widely accepted yet, pay-for-performance ads seem a promising revenue source for website operators. In the course of this development, borders between content and advertisement may blur (Ramsey 2009).
**Legal structure**

International presence gives rise to complicated legal issues. DDU, featuring both, software downloads and community functions, is subject to two areas that are both subject of discussion: privacy and copyright issues. Moreover, there may be questions concerning protection of minors.

On the European level there already exist laws in the areas of IT security, domain names, protection of minors and copyright (Bundestag (ed.) 2002) which are supposed to harmonise national legislation. With this trend continuing, Europe-focused operators such as DDU may experience complications caused by different laws and regulations decrease in the long run.

**5.2. Critical Success Factors**

Critical Success Factors stand for key areas where satisfactory results are necessary in order to ensure successful competitive performance. Concluding from Porter's Five Forces, the forces that shape the industry are competitive rivalry among actors and buyer power, with buyers being advertisers in this case. The bottleneck between providers and users, who eventually lead to online ad revenue, are search engines. The following critical success factors reflect the conclusions derived from industry analysis.

**Search engine optimisation**

Attracting users through search engines is crucial for download portals who need a broad audience they can expose online advertisement to. Kaspar (2009) points out that particularly special interest communities may contain content that is valuable not only for community members but also for so called “Google visitors”. In contrast to active community members, these Google visitors search for specific tools or try to solve specific problems. Thus, they only consider the most relevant search results and portal providers make efforts to improve their page rank (Malaga 2008). Certainly, search engine optimisation does not end with visitors entering the website. In contrast to frequent users, Google visitors access the sites via search engine results that direct to sub-pages. Thus, the portal needs to get its structure and content across to the visitor within seconds (Kaspar 2009). For that reason, search engine optimisation is not only a technical but also a managerial issue (Malaga 2008).
User and content aggregation

Besides search engine optimisation, platform operators gain visitors through other channels, for example partnerships with general-interest web portals or other special-interest communities. Due to the search engines' changing and inscrutable algorithms, alternative channels for user aggregation are necessary to constantly attract visitors. Moreover, a broad partner base also creates back-links which are valuable in regard to search engine optimisation. However, in addition to establishing an alternative channel for attracting users, an aggregation model means partnering and thus, establishing a network. While all efforts concerning search engines target first- or single-use visitors, aggregation via partners and back-links mirrors has the potential to increase brand awareness. Thus, it is important to notice that an aggregation model may not only open access to completely new user groups but also provide the opportunity to build a co-creation network and increase brand-awareness.

Click-through optimisation

When selling online advertisement space, two basically different options can be offered, pay-per-view (PPV) and pay-per-click (PPC) (Fjell 2009). Fjell recommends website operators to either choose PPV or PPC. As described in chapter 5, DDU relies on PPC since the cost-per-Mille (PCM) are considered too low to work profitably. Moreover, Wirtz (2009) states that pay-for-performance ad formats are the advertisers' preferred choice compared to affiliate programs, display ads or classified.

The growing importance of pay-for-performance ads assessed by Wirtz (2009) draws attention away from attracting large user masses to create revenue, and instead concentrating on optimising the click-through-rate (CTR). The percentage of page views that lead to clicks on ads may be optimised for example by implementing interactive rich-media ads (Rosenkrans 2009).

Economies of Scope

Profitability depends on both revenue and cost. The major cost factors are storage, bandwidth and labour cost. By exploiting synergy effects, website providers aim at decreasing cost. International portals with presence in several countries may profit by a common title database and reduced expenditure in human labour concerning editorial
work. Ongoing harmonisation of law within Europe may lead to further synergy effects in this regard. Portals with partners may benefit from their network's experience concerning online publishing, advertising or search engine optimization. Comparing the most successful download portals reveals that each of them leverages economies of scope, making synergy effects a critical success factor.

5.3. **Resource-based view (RBV)**

Analysing resources and capabilities gives an overview of existing assets. According to Collis and Montgomery (2008), possessed resources enable a firm to perform activities better or cheaper than rivals. These can be physical assets, intangible assets or capabilities. The allocation of existing resources is the key to add value for customers and differentiate from competitors.

As framework for analysing strategic resources and capabilities, and the categories introduced by Grant (2008) and Wirtz (2008), are combined. The overview of strategic assets is summarised in the following table.

<table>
<thead>
<tr>
<th>Resource</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial</td>
<td>Relative independence due to the platform's profitability</td>
</tr>
<tr>
<td>Reputation/brand</td>
<td>Internationally renowned cross-media brand</td>
</tr>
<tr>
<td>Skills and know-how</td>
<td>Online publishing skills in several countries, know-how in online advertisement, search engine optimisation and website usability</td>
</tr>
<tr>
<td>Community</td>
<td>Platform inhabitants as voluntary employees (content sourcing)</td>
</tr>
<tr>
<td>Network</td>
<td>Close cooperation between platforms but few partners outside the group</td>
</tr>
<tr>
<td>Content aggregation</td>
<td>Adapting the platform to the preferences of the targeted customer segments in order to foster content generation</td>
</tr>
<tr>
<td>Content exploitation</td>
<td>Encouraging cross-departmental/organisational cooperation, exploiting synergy effects</td>
</tr>
<tr>
<td>Market knowledge</td>
<td>Enabled by long market exposure and international presence</td>
</tr>
<tr>
<td>Technological excellence (SEO/CTR)</td>
<td>Optimising the website's page rank (SEO), usability and, thus, increase efficiency (CTR).</td>
</tr>
</tbody>
</table>

**Table 5 VRIS analysis (Hitt, Ireland and Hoskisson 2003)**

The VRIS analysis looks ahead and shows whether the previously defined strategic resources or capabilities can be a source of sustainable competitive advantage but also fields of competitive parity or even disadvantage. It is important to notice that the links
between resources and capabilities, or in other terms the ways how a company deploys it assets, are crucial for success. Thus, the following analysis will not focus on single assets but on how they concur. Analysing these fields of assets eventually leads to strategic implications aiming at confirming sustainable competitive advantage, nurturing areas of competitive parity and identifying possibilities for improvement in fields of competitive disadvantage, given that these underdeveloped assets are among the industry's critical success factors.

Financial resources

Due to DDU's profitability, the portal enjoys financial independence to some extent, what gives the management the opportunity to experiment with new formats, features and revenue models. This may be regarded as valuable and rare; however, seminal innovations may also come from small competitors with less financial power. Thus, this asset is rated imitable and substitutable. However, in situations like the economic downtown in fall/winter 2009 when ad revenue decreased dramatically, financial savings may be regarded as a short-term competitive advantage. Moreover, in the long run it is assumed to lead to average or above average returns (Teigland 2009).

Cross-media brand

DDU extends the DISC brand into the segment of international special-interest communities. With DDU being the youngest of all DISC offerings, its initial purpose could be described as maximising the value of DISC's assets by leveraging synergy effects and extending the brand into international markets (Plica 2010). Even though Porter (2001) suggests that the existence of an offline brand may ease the creation of an online brand, DDU cannot confirm this hypothesis. According to their experience, introducing a new country platform is difficult in both countries with or without the printed DISC magazine established. Thus, the cross-media brand is not regarded as a source of competitive advantage.

Online publishing skills

The DISC brand not only comprises the print magazine but also the respective websites such as DISC.de, DISC.it, and so on. The German DISC magazine websites DISC
Online has 14 years of experience in online publishing what implies that their deep market knowledge is an extremely valuable asset for the DDU portal.

As described earlier, several former subsidiaries of a German media holding build today's DDU. Few of these subsidiaries had experiences in online publishing before the acquisition in 2007 and contribute to the success of the entire network with their online publishing skills and knowledge. It is important to notice that local portals in these online-skilled countries, for example Hungary or Poland, are more successful than those countries where partners have no online publishing experience (Plica 2010).

**Community**

DDU provides community applications like reviews and forums which are considered a point of difference from competitors. Moreover, these features are supposed to offer incentives for users to generate content. On the DDU portal, user-generated and editorial content are considered equally important. Thus, the community features are regarded a crucial element on the one hand to foster content generation and on the other hand to increase user loyalty. Community features such as the user rankings and points system are meant to foster involvement and thus, loyalty. Concluding from the user segmentation (chapter 6.1), the most active users, the so-called inhabitants, may even be regarded as voluntary employees. With an estimated number of 50 inhabitants, this voluntary workforce is extremely valuable in terms of community and content development, increasing the portal's gravity in the web and thus, rated rare, inimitable and non-substitutable.

It should be noted that, being basic building blocks of a social media site, community features are imitable and substitutable. There is no special knowledge required to develop such capability and it can be easily integrated into the site. Even though only few of DDU's competitors provide such features yet, the community cannot be regarded as a source of competitive advantage in the long run.

**Network**

As suggested in the Critical Success Factors, a partner network may serve as an alternative channel to search engines, providing portal operators the opportunity to firstly, add a second channel to attract users and, secondly, increase their website's relevance
for search engines. For that reason, this resource is strategically important. However, concluding from DDU's current key performance data, the small number of back-links suggests low performance in this area. The current state of DDU's network is neither valuable nor rare; instead it is imitable and substitutable. In consequence, this resource is rated as underdeveloped which means a competitive disadvantage and implies below average returns.

**Content aggregation**

Due to DISC Online's long market exposure, DDU can rely on their deep market knowledge and their advice that clear customer segmentation is of high strategic importance. Content aggregation as the ability to foster user generating content may fulfil all VRIS criteria. However, DDU's current operations lack in satisfying the needs of one the user group that is most active in generating content, the experts. In Thomas Kaspar's own words, DDU does not provide experts “a stage to show off their expertise”. Thus, DDU is looking for opportunities to improve their offer accordingly in order to eventually make content aggregation a source of sustainable competitive advantage.

**Content exploitation**

Due to its international presence, DDU can exploit content in two ways. Firstly, recommended tools are kept in a common title database and user-generated content such as descriptions in English are published on all portals. Thus, DDU exploits synergy effects by processing content in several ways. Secondly, DDU possesses dynamic capabilities due to the international and inter-organisational cooperation. Editors in all involved countries exchange information concerning successful newsletters, specials, etc.. By this means, not only user-generated content is used multiple times but also editorial content and experiences. However, processes usually occur in a sequential chain rather than in a network of mutual exchange. Usually, Germany initiates new features or campaigns which are then translated into English, published on the English portal and eventually transferred to the remaining websites.

This operational excellence is unique for DDU and arose from the strategic alliance between two German media groups. For the previously mentioned reasons, this specific constellation of resources and capabilities is valuable, rare, inimitable and non-substitutable.
**SEO and CTR**

The Critical Success Factors revealed that technological excellence in optimising a website’s click-through rate and search engine page rank is a prerequisite to sustain in this market. However, Wirtz (2009) argues that technology cannot serve as a basis for sustainable competitive advantage since all successful competitors obsess this skill. In consequence, technological excellence in these areas is neither rare nor inimitable but definitely valuable and non-substitutable.

<table>
<thead>
<tr>
<th></th>
<th>Valuable</th>
<th>Rare</th>
<th>In-imitable</th>
<th>Non-Substitutable</th>
<th>Competitive consequence</th>
<th>Performance implication</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Temporary competitive advantage</td>
<td>Average to above average returns</td>
</tr>
<tr>
<td>Brand</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Competitive parity</td>
<td>Average returns</td>
</tr>
<tr>
<td>Skills</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>!Sustainable competitive advantage</td>
<td>Above average returns</td>
</tr>
<tr>
<td>Community</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Temporary competitive advantage</td>
<td>Average to above average returns</td>
</tr>
<tr>
<td>Network</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>!Competitive disadvantage</td>
<td>Below average returns</td>
</tr>
<tr>
<td>Content aggregation</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>!Competitive disadvantage</td>
<td>Above average returns</td>
</tr>
<tr>
<td>Content exploitation</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>!Sustainable competitive advantage</td>
<td>Above average returns</td>
</tr>
<tr>
<td>SEO and CTR</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Competitive parity</td>
<td>Average returns</td>
</tr>
</tbody>
</table>

*Table 6 VRIS analysis, Hitt, Ireland and Hoskisson 2003*

5.4. **Strategic implications**

Combining the industry analysis which revealed four crucial success factors and DDU’s business analysis, reveals strategies for exploiting DDU's key strengths by reacting on opportunities and avoiding threats by correcting weaknesses.

DDU's key strengths reside in those assets that are both highly developed and strategically important. Due to the close collaboration with the German magazine website DISC Online as well as cross-country cooperation between the local platforms, DDU is
strong in online publishing and advertising. Network effects are even further exploited in terms of content sharing on both editor and user side. With this set of key strengths, DDU can capitalise on opportunities residing in international presence concerning economies of scope. Potential for further synergy effects may reside in consolidating business functions such as online sales.

On the other hand, while DDU’s internal network is strong, collaboration with external partners is not utilised yet and, thus, offers untapped potential to attract new users. Moreover, considering the untended segment of experts, there may be the possibility to gain experts as partners, and by this means, improve the current weakness to exploit an untapped opportunity.

At the same time, the major threat of becoming dependent from search engines and their unpredictable changes in algorithms may be avoided by establishing a strong partner network which opens an alternative channel to constantly attract users. In addition, a large external partner network increases the page's back-links and, in consequence, its search engine page rank.

**DISC Download Collection**

DDU has been consistently committed to product innovation and experimenting with formats and functions. The idea of a “DISC Download Collection” was originally developed as a response to the low number of back-links and thus, considered a tool for search engine optimisation. The planned offer allows users to create a customized download section which is easy to embed within every website to provide visitors with free downloads from DDU's existing title base. Moreover, the offer is supposed to foster new tool recommendations, growing DDU's title base.

Conducting thorough industry and business analyses revealed that the DISC Download Collection concept offers an even greater potential, providing the opportunity to correct some of DDU's key weaknesses.

Developing the My Download Page, two critical success factors may be addressed, namely search-engine optimisation and user/content aggregation of which the second is considered an underdeveloped capability based on the findings from the VRIS analysis. Users who generate content usually fall into the user segment “experts”; however, DDU themselves consider their attractiveness for this segment rather low. For that reason,
creating DISC Download Collection aims at building an online service for “experts”. In order to create a tailored offer that fully satisfies this segment's needs, the segmentation process described in chapter 4.3 will be followed, in due consideration of the findings from the methodology chapter.

While Porter's Five Forces analysis suggests that cross-media brands provide a source of differentiation and industry entry barriers, DDU couldn't leverage the DISC brand online, yet. With the new My Download Page aiming at building a network of partners, DDU may possibly benefit from DISC’s reputation. Potential partners may appreciate DISC for being reliable and internationally renowned. Moreover, as the PESTEL analysis suggests a trend towards content curators who sort relevant content, establishing a network of multipliers is likely to gain strategic importance in the near future.

Moreover, partnering not only opens access to new audiences but also allows for co-creation that exceeds existing practises. Today, DDU collaborates with the customer segment called community inhabitants, for example in beta tests. However, developing the new offer will be a co-creative process from the very beginning. It is planned to involve selected partners from customer value research, beta testing, to the actual rollout. This approach allows for mutual exchange of information, deeper market knowledge and understanding of user needs and, in consequence, the opportunity to enhance user experience.
6. Value research

Assessing customer value is a progressive approach to gain understanding of customer requirements and preferences. The process can be divided into three phases, following Anderson's (2007) Customer Value Management framework: gaining initial cooperation, gathering data, and analyzing data.

Adapted from Anderson's (2007) Customer Value Management framework, value research was conducted in a five-step process (chapter 6.1 to 6.5).

6.1. Segmentation

In this case, customer need-based segmentation based on previous analyses and the team’s practical experience served as a starting point for the value determination process. Extensive customer interviews were conducted to supplement this data with first-hand information.

From DISC.eu’s perspective, customers have previously been advertisers and users on their community website. Implementing the new offer expands this group by webmasters and community managers - and, again, their users. However, webmasters and community managers are not exactly end-consumers but rather partners since they personalise a service not for themselves but for their own users. Regardless of whether webmasters are called customers or partners, the concept of co-creation anyway implies that when value is created together, established roles blur. Thus, one could argue that there exist no consumers at all. However, for now it is important to notice that value research creates a better understanding of one's counterpart's needs and values regardless of terms like partner or customer.

Based on the modified customer segmentation framework (chapter 4.4), three major groups were identified: Content curators, and two types of content creators, including small/medium software developers including semi-professionals, and larger commercial software developers. These segments represent groups that DISC expects to be interested in DISC Download Collection as new feature of DISC Download Community.
<table>
<thead>
<tr>
<th>Purpose</th>
<th>Content curators</th>
<th>Content creators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tool bundling</td>
<td>Tool distribution</td>
<td>Marketing tool</td>
</tr>
<tr>
<td>Possibilities to show their expertise</td>
<td>Free bandwidth and storage</td>
<td>Fast and easy tool upload</td>
</tr>
<tr>
<td>Easy access to DDU’s title database</td>
<td>Reach a broad audience</td>
<td>Stage to present their brand</td>
</tr>
<tr>
<td>Easy tool recommendation process</td>
<td>Fast and easy tool upload</td>
<td>Little administrative work</td>
</tr>
<tr>
<td>Little administrative work</td>
<td>Stage to show their expertise</td>
<td>Communication with users</td>
</tr>
<tr>
<td>Free</td>
<td>Free</td>
<td>Branded group/fan page on DDU</td>
</tr>
<tr>
<td>Group page on DDU (v1), HTML embed for group</td>
<td>Expert/Developer profile on DDU</td>
<td>Exclusive downloads for group members?</td>
</tr>
<tr>
<td>Embeddable widget/plugin (v2), “Out of the box”</td>
<td>Update alert function</td>
<td>Communication functionality</td>
</tr>
</tbody>
</table>
| Allow users to use forum account? | Push content, e.g. top lists
| Free bandwidth and storage |
| Private or small software developers
| PC-savvy users
| Serve a small audience |
| Quality: Reliable, up-to-date content
| New content
| But: High competitive intensity |
| Fragmented, diversified group
| hard to reach |
| Share development cost |

<table>
<thead>
<tr>
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| PC-savvy users
| Serve a small audience |
| Quality: Reliable, up-to-date content
| New content
| But: High competitive intensity |
| Fragmented, diversified group
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Table 7 Customer segmentation
Resulting from the resource-based view, the groups are chosen because they all appear attractive in terms of SEO, content aggregation and building a network of multipliers.

The segmentation process revealed that a number of both, amateur and professional software developers already run accounts on DISC to upload their software regularly. Providing official accounts is, thus, considered a need of both segments. Small and medium content creators develop software, games or other types of content, often without a view to profit. The segment is characterised by PC-savvy users who serve a small audience with their self-developed software. The group is targeted by a number of websites that allow free uploads and serve as platform for a great number of private or small developers to share/distribute their products. Highly fragmented, individuals in this segment are hard to reach. As they often don't have a lot of traffic on their website, the number of valuable back-links and traffic from their sites is questionable.

Considering professional software developers, the situation appears to be completely different. Many provide community functions on their own site, run Facebook fan pages and Twitter accounts, actively forging links with their users. From their perspective, DISC Download Collection is a marketing tool enabling professional developers to meet prospective customers on a third party platform. Branded download collections, coupons for collection members and other campaigns are considered possible features requested by this segment. DISC’s download collection is, in contrast to other download communities, present in twelve countries and thus, of particular interest for international software developers. For DISC, the segment is on the one hand highly attractive because of its financial strength and the possibility to share development costs. On the other hand, long decision processes in large corporations, reservations concerning social media and user-generated content make professional software developers a challenging segment regarded less dedicated to co-creation than the third segment:

The term Content Curators describes a group consisting of webmasters of special-interest forums, communities, blogs, etc. Their common need is bundling content for a niche market as the existing general-interest sites cannot serve the specific needs of their target group. They are regarded experts in a particular topic and forge close links with their users. The DISC Download Collection enables this group to present their expertise in a new way. Based on points of parity and points of difference, the value proposition for the segment is outlined as follows: DISC Download Collection enables webmaster to publish a hand-picked download collection on their website, providing their
users free, virus-checked and up-to date downloads that satisfy the users' special interests. Moreover, at the same time webmasters present their niche community to a larger audience as all collections become part of DISC Download Community. The segment is regarded particularly attractive because of the mere quantity of niche communities possibly resulting in numerous back-links. With most of them running their website as one-man operation, decision making processes are assumed to be short. Furthermore, DISC could benefit from their (print) brand. Assuming DISC to be trustful, reliable and serious, webmasters’ reservations towards co-creation might possibly be cleared out.

Resulting from the modified segmentation framework, Content Curators were chosen for the further product development process. Nevertheless, particularly the third segment, professional software developers, are still considered an attractive and profitable target group and might possibly be concerned with DISC Download Collection in later stages of the product life cycle.

6.2. Data collection

The purpose of the interviews was to discuss the hypothesized points of parity and difference and gain partner agreement. Furthermore, identifying the partners' purposes, and deducing product attributes following Woodruff’s (1997) value hierarchy model, is a first step in the co-creation process.

Since the research approach is qualitative, the selected webmasters are no representative proportion of all German website owners. Instead the choice was based on:

- High level of activity on the website, not only considering the number of daily postings or active users but also the webmasters’ personal involvement, and
- a download section on the website, presenting a hand-picked list of software/tool/video/game/wallpaper recommendations.

The selection criteria reflect Prahalad and Ramaswamy’s (2000) findings, stating that the choice of co-creation partners should be based on their knowledge and skills. According to them, other criteria required are

- their willingness to learn and experiment, and
- the ability to engage in active dialogue.
While the webmasters’ “skills and knowledge” could easily be verified based on the above mentioned criteria, their willingness to experiment and ability to engage in dialogue was harder to assess. Only by establishing contacts personally and getting to know them, a small group of candidates who possess the ideal mix of characteristics could be identified.

**Gaining initial cooperation**

A total of 54 webmasters was contacted and informed about the planned offering, the co-creation development approach and the current stage of the project. Resulting from the chosen selection criteria, the webmasters were mainly amateurs/semi-professionals since commercial website owners tended to be less active on their site.

Due to the careful pre-selection and extensive preparation, the response rate to the initial email contact was as high as 61 per cent (33 webmasters replied). Of those who replied, five (15 per cent) were not interested at all, stating they refuse any cooperation, mostly because of scepticism towards external partners. Unfortunately, the reasons behind their rejections couldn’t be further explored as these webmasters refused any further contact.

Most respondents (15 webmasters or 44 per cent) showed interest in the market offering but were unwilling to put effort in a joint development process. Many enquiries referred to product attributes, indicating that this group refused to engage in the highly conceptual work required in this early development phase. However, the group clearly signalised willingness to use the product once it is launched.

13 webmasters (30 per cent) were interested in joining the development process, while only four of them (12 per cent) agreed to participate in the first round of interviews (value research). Nine webmasters only wanted to join in when the beta version was ready for testing (graph 6). Reasons behind this reaction were that interviews about their own needs, values and goals appeared to be too confidential and time-consuming without direct, tangible benefit. Beta-testing, in contrast, is a hands-on activity where participants can easily see changes and progress.
6.3. Within-case data analysis

The interviews always started with a free opening phase, giving the webmaster about 10-15 minutes to present himself and his website. All interviewees were passionate about their site and willingly explained their personal background and development of their site.

Beforehand, the assumed goals and purposes, gained from need-based segmentation, were translated into product attributes according to Woodruff’s (1997) value hierarchy, and visualized in various scribbles (Appendix 2). These “screenshots” made it easier for interviewees to imagine the use situation. Moreover, existing alternative offerings were used as starting point for the interview. The line of questioning proceeded from product attributes to consequences of product use and, eventually, goals and purposes. Asking “Why” is the instrument to climb the ladder.

As no similar offerings exist that could be used as comparison, the interviewees were presented with two invented options for an attribute, and asked for their preferred choice. “Why do you prefer A over B”? This approach turned out to make the conversation feel natural and to be the best method to simulate a use situation.

While the interviews followed a soft laddering approach, allowing for open discussion and flexible adaption, a questionnaire (Appendix 3) was used as reminder, ensuring that, with regards to content, all areas were covered. Qualitative evidence gained during the interview phase was vivid and delightful, revealing the (often very personal) stories behind the forums, websites or online communities. Four intense ladder interviews were conducted in a period of four weeks.
Interview 1

Interviewee 1 hosts a forum for computer newbies, providing help for the first steps in the online world. The interviewee has previously been moderator in the online community of a well-known PC magazine but left this forum because of upcoming conflicts between users and the community operators. Resulting from this experience, he now attaches great importance to user orientation.

The interview revealed an area of conflict: On the one hand, the interviewee expressed his fear of losing his independence when partnering with a big company. On the other hand, the relatedness to a well-known brand appeared very attractive to him. Discussing product attributes, the interviewee tended to choose the option that means less administrative work, high level of convenience/usability but no obligations, for example:

- Ex 1: an Embed Configurator for integrating the Download Collection into external websites instead of a more flexible but also complex open API.
- Ex 2: the collection site on DDU may only include a guestbook instead of more complex communication functionalities.

Considering the timely aspect, it is important to notice that at the beginning of the interview he was most concerned about the amount of work related to the project. Towards the end of the interview, the conversation reached a more strategic level, discussing which values DISC and his site have in common and how both parties could benefit from the partnership:

- Ex 3: the embedded Download Collection may show the DISC Logo and, in return, his logo is displayed several times on DDU.
Interview 2

Interviewee 2 operates a special-interest community for amateur photographers. He himself is a passionate photographer and, moreover, has profound knowledge in computer science. The community was originally built as a private website presenting his photo gallery. In the first place, his visitors used the guestbook to discuss his pictures. By and by, the guestbook was replaced by a forum and the private site became a public and well-known online community.

His answers given during the interview clearly showed that he still regards the community as “his stage” and sets great importance on features that might possibly broaden his audience or improve search engine ranks, or opening up new possibilities to show his expertise.

- Ex 1: an official profile on DDU creates valuable back-links. In return, additional administrative work caused by keeping this profile up-to-date is accepted.
- Ex 2: an official profile on DDU might possibly attract new users.
- Ex 3: create a hand-picked collection and customize the embed widget instead of making use of generic “top 10” lists.
While the official profile itself was classified highly attractive, interviewee 2 pointed out that the profile as well as the embedded widget should cause as few administrative work as possible.

- Ex 4: instead of communicating actively with users on DDU, the idea of passive “collection followers” appeared more attractive.

Interview 3

The third interview was held with the webmaster of a forum for questions and problems concerning the operating system Windows, providing help for beginners and advanced users. The webmaster himself is a Microsoft certificated “Most valuable professional” aiming at giving his portal a professional touch. Overall, his attitude towards the interview could be described as very sceptical. Instead of engaging with the interview, he was concerned about DISC’s motives, generally doubting equal relationships and win-win-situations.

His answered reflected scepticism and reservation, challenging the benefits described in the value proposition. Focusing on tangible benefits and exchange of goods and
services, his desired product attributes aim at reducing involvement in DISC Download Community to a minimum.

- Ex 1: Update alerts, automatic updates, minimal communication functionality and strictly limited users rights minimise administration efforts and require minimal webmaster involvement.
- Ex 2: A link leading directly from the embedded widget on a website to the download on DDU, without signing in on DISC, keeps his users on his site, not registering on DISC.

Being afraid of losing his users to the much bigger DISC community, interviewee 3 demanded product attributes that assure a high level of transparency and do not require long-term obligations.

Graph 9 Interview 3 Within-case data analysis

Interview 4

The fourth interview was the last in the series, giving the webmaster about one month time after the initial contact to think through the project and even read a preliminary version the product feature list. As data collection and analysis overlapped (intentionally),
first conclusions were drawn from the previous three interviews, resulting in a simple “FAQ” that webmaster 4 read before participating in the interview.

Interviewee 4 is a long-term DISC user himself, using both the magazine website and the DISC Download Community as information source for his website. In consequence, he is familiar with DISC’s online product portfolio and immediately understood how the new offer could look/feel like. His utmost concern was high adaptability in terms of both content and design:

- **Ex 1**: Customization as first priority: a personal tool selection instead of tool top10 lists. Adaptable design for the embed widget.

In contrast to all other interviewees, he showed no concerns or worries concerning losing autonomy or his users to the big DISC Community. Instead, he was mostly interested in product attributes that affect the presence on each other’s website.

- **Ex 2**: An official profile on DDU was regarded a Marketing tool to spark DISC users’ interest in his site.
- **Ex 3**: An embedded widget with the official DISC Logo shows the partnership in public and creates relatedness.

[Diagram of customer's goals and purposes, desired consequences in use situations, desired product attributes, demonstrate competence, op brand-partnership, visual attention, Adaptability, Broad audience, Relatedness, Free storage/bandwidth, Fast and easy upload process, Embed configurator, Visibility on tool pages/user profiles, Backlinks, Graph 10 Interview 4 Within-case data analysis]
A widget with a hand-picked selection of tools that webmasters can integrate into their homepages was regarded the connector between DISC and webmasters like him. Interviewee 4 was most concerned how the partnership could possibly be shown in public – to his users as well as to the DISC users. He was keen on attracting new users from the DISC community and increasing his search engine page rank by creating back-links on DDU. For him, partnering with DISC was a strategic issue.

6.4. Data analysis

Data analysis compares and contrasts the collected qualitative data and explores the reasons behind. For data collection, ladder interviews were conducted, a qualitative research technique helping to understand customer behaviour (Modesto 2006). Following Gutman (1991), consumer choice behaviour extends from product attributes through consequences in use situations to end-benefits and personal values. Thus, lower levels imply higher levels, meaning that attributes, consequences of product use and consumers’ values are sequentially linked (Modesto 2006).

As (soft) laddering is an open interview method, each interviewee used other terms to describe attributes, consequences and goals. Thus, the first step in data analysis is to identify a common meaning behind the terms used and group the results accordingly. Furthermore, dependencies and consequences are marked, resulting in an overall value hierarchy map (graph 11 next page, for a detailed view see Appendix 4)
6.5. **Motivational factors**

As graph 11 shows, when aggregating the interview results by making groups and finding common words, three different purposes were detected. Satisfying these three needs is assumed to increase customer motivation in participating in co-creation:

**Autonomy**

All interviewees attached great importance to keeping control of their surroundings. Having numerous options and choices gives customers a feeling of freedom and independence. Even though the interviews revealed that all of them would chose similar product attributes, they still insisted on having a choice – for the sake of having a choice.
Competence

Recognizing the customers’ competence and treating them as equal partners turned out to increase the interviewees’ motivation. Concerning the product attributes, the interviewees tended to prefer features that allow for a high degree of personalization in order to fully unfold their individual expertise. Furthermore, interviewees who set value on competence showed more interest in consequence in use situation than on mere product attributes. Showing that their work is considered meaningful and valuable by making the partnership public fulfils their need for competence.

Relatedness

All interviewed webmasters interact with others on their website. Nevertheless, they recognized the opportunity to enter a network of webmasters by participating in the co-creation process. Becoming part of this “community of community managers” not only means acknowledgement of their work from DISC and other webmasters but also mentorship.

6.6. Hypotheses

Data analysis revealed three shared goals and purposes among the interviewees: autonomy, competence and relatedness. The result coincides with White’s findings from 1959, stipulating that the need for autonomy, competence and relatedness are drivers of intrinsic motivation. Thus, I conclude that intrinsic motivation is closely linked to the idea of co-creation as “intrinsic needs are more likely to be met via creative pursuits” (Bartl 2009). In consequence, by participating actively in the creation process, customers achieve benefits they cannot satisfy through passive consumption.

Hypothesis 1: Co-creation is motivated by intrinsic needs.

The interview revealed differences in motivation. Based on the collected data, I add another dimension to Woodruff’s (1997) value hierarchy by objecting that the nature of customer value changes over time. This means that the relative importance of autonomy, competence and relatedness as motivations for co-creation changes during the process.
Hypothesis 2: Relative importance of intrinsic needs changes during the co-creation process.

Ford (1993) distinguishes five phases with increasing experience and decreasing uncertainty and distance. He examined buyer-seller relationships in industrial markets, however, I relate to findings as I regard them transferable to the present case. Both settings business-to-business and co-creation relationships are characterized by long-term commitment, mutual dependency and high levels of trust.

According to Ford (1993), actual commitment tends to be low in early stages of relationships. Both parties have little or no evidence to judge the partner’s commitment and the relationship is characterised by considerable uncertainty. Transferring these findings to value research, the interviewees with no previous experience with DISC showed no loyalty and were mostly concerned about protecting their position, defending independence, or in other terms: autonomy. With increasing experience trust is established and uncertainty is reduced to a minimum. Thus, in later stages, I conclude that customers leave their defensive attitude and aim at showing their expertise to fulfil their intrinsic need for competence. With increasing experience and loyalty, customers reach the next level, and seek relatedness. However, it is important to notice that the needs for autonomy and competence remain; only their relative importance changes.

Strictly speaking, the case under investigation only dealt with ‘un-experienced’ users insofar as no market-ready/comparable product exists that anyone had used before. However, some interviewees were more familiar with the DISC product portfolio and had more information concerning planned product attributes than others. Based on this difference in the levels of knowledge, I conclude that un-experienced customers focus on product attributes, while consequences of product use and goals gain importance for
more experienced/informed users who show higher levels of loyalty. I assume this is because customers need to gain experience with a certain product or service before they are able to fully assess the degree to which the product or service can help reaching their goals. Following this argumentation, value research with un-experienced and experienced customers serves different purposes needs different communication strategies.

Graph 13 visualizes hypothesis 2, combining Woodruff’s (1997) value hierarchy with White’s (1959) intrinsic needs and adding loyalty as another dimension.

**Graph 13 Framework for leveraging co-creation participation**

The framework for leveraging co-creation illustrates different customer experience levels that are linked by increasing levels of loyalty. With growing experience and diminishing uncertainty, the experience sought changes from autonomy, to competence, to relatedness. As stipulated in hypothesis 2, I assume that customers evolve according to this framework during the co-creation process. While the relative importance of these three key values changes, it is important to notice that value levels are not replaced by each other but add up.

Un-experienced users focus on the product attribute level because they cannot yet assess how a product or service might possibly affect their goals. They aim at strengthening their own positioning, setting themselves apart from competitors. With this
focus on competition, they motivation for co-creation is gaining access to new products/features that serve as source for competitive advantage.

With increasing loyalty and commitment, customers’ knowledge grows and they start evaluating the consequences of product features on their daily routines but also strategy. On this consequence level, customer experience becomes the focal point of interest and customers are able to assess attributes’ consequences in use situations. Thus, they spotlight not only mere features but their usability and the experience related to them.

Enlightened users are familiar with product attributes and consequences in use, and moreover, recognize the opportunities of long-term relationships. Loyalty between these customers and the company might possibly originate from previous projects or grows during the course of the co-creative development process.

From these findings I conclude that customers need to be addressed differently during the co-creation process, corresponding to their experience level and key need. Furthermore, insights gained from customers on higher experience levels may be incorporated backwards in the co-creation process, stimulating customers on lower experience levels. Here, I explicitly address ‘un-interested customers’ who meet all criteria as valuable co-creation candidates but refuse any cooperation. Exploring their motives can result in valuable input for the entire co-creation process.
7. Discussion

Previous research in this field mainly focused either on reasons behind co-creation or its outcomes. In contrast, this master thesis develops a guide how to create conditions for achieving competitive advantage through co-creation.

In contrast to traditional market research based on prototypes, co-creation expects customers to take initiative and generate knowledge actively. Thus, companies strive for creating settings that stimulate customer motivation and participation. However, Kristensson et al. (2007) criticise that “[...] it is not specified how a company should act in order to facilitate its customers actively detecting their latent needs during value-in-use” (Kristensson et al. 2007, p. 477). Furthermore, they assert that “…instructions on how to initiate a co-creation project, for example how and under which forms customers can share their information, are difficult to find” (Kristensson et al. 2007, p. 477).

This thesis aimed at creating a basic framework to answer these questions. Based on my findings, I recommend approaching co-creation as follows:

7.1. Defining the co-creation project

There are manifold possibilities to start co-creation projects along the entire innovation process, from idea generation to product launch. Relating to Bartl (2000), opportunities lie in the following five stages:

![Graph 14 Product development stages, Bartl (2000)]

Co-creation can serve various purposes along the previously described chain, for example generating ideas, refining concepts and specifying features, building prototypes, testing and so on. In the DISC case, the initial idea was based on analyses while customers were involved in the “concept & features” and “testing” stages. However, customer involvement in the late stages of product development, such as beta-testing, is already common practice. Co-creation challenges lie in the earlier stages where perceived risk is high. Just as Ramaswamy and Prahalad (2000) require willingness to
experiment and the ability to engage in active dialogue from customers, companies need these capabilities, too. What is a common requirement among all co-creation projects is careful planning and effective governance. Compared to traditional in-house product development, new routines need to be established and responsibilities placed, particularly considering internal knowledge-sharing. While companies sometimes hassle with internal information dissemination, input from external sources poses completely new challenges concerning this matter.

7.2. Identifying co-creation candidates

When customers play an active role in value creation, they become a source of competence for the corporation (Prahalad, Ramaswamy 2000). The case study confirmed Prahalad and Ramaswamy’s assumption that ideal co-creation candidates are characterised by their willingness to learn and experiment, the ability to engage in dialogue and a specific skill-set and knowledge required for the project. Franke et al. (2006) state that only a few users, so-called lead-users, have the cutting-edge knowledge required to contribute actively to a co-creation project. Moreover, my findings support Matthing et al. (2006) who claim that for projects in technology-driven settings, users with a high level of technology readiness should be invited to participate.

While literature in the field usually considers end-customers as partners for co-creation, the DISC case study shows that roles tend to blur, making traditional definitions like consumer or intermediary obsolete. Thus, it is recommended to consider all affected groups in a value network to identify the most promising co-creation partners.

The required mix of characteristics that qualify co-creation partners very much depends on the purpose of the task and the company situation. Detecting complementary assets requires thorough analysis on both the company and industry level, and deep knowledge of the related value network. Besides matching the identified profile of task-related assets and capabilities, prospective co-creation candidates also need to be motivated to participate in co-creation. Instead of offering incentives that might spark the customers’ interest because based on extrinsic motivational factors, the DISC case clearly showed that intrinsically motivated customers turned out to be the most valuable, highly involved and creative partners. Thus, I recommend counting on intrinsic motivation to filter out the most promising candidates.
7.3. Managing the co-creation process

With the driver of fruitful co-creation being intrinsic motivational dimensions, managing co-creation is mainly a question of interpersonal skills. While identifying opportunities for co-creation projects within a company and spotting promising candidates is based on analyses, creating and maintaining motivation requires an entirely different skill set.

For creating the basic motivational conditions, a pleasant and supportive atmosphere is required. Therefore, the employee(s) representing the company need(s) to behave appropriately, accounting for the interviewee’s individual situation. This includes fostering open discussion instead of one-way questioning.

The prerequisite to generate initial motivation is a thorough knowledge of the interviewees’ values and needs, making the co-creation process strongly user oriented. Drawing a clear picture of the expectable success increases initial motivation, but expectations always have to remain realistic. Working in a goal-oriented way ensures that the entire process is both transparent and efficient.

Maintaining motivation requires constant stimulation to keep a certain level of excitement, for example by showing transparently how user input it translated into product features. This is assumed to increase self-motivation. Moreover, it seems reasonable to foster cooperation among participants at this stage. While in earlier phases, the company worked as hub between all lead users, it might possibly increase motivation when the selected group of lead-users can meet and discuss freely, for example in an online forum. By this means, a meta-community is established.

Graph 15 Hub-constellation in co-creation

Graph 16 Meta-community
Building this meta-community is regarded essential to maintain successful co-creation in the long run. Just as in any other online community, a small group of enthusiasts, inhabitants or ambassadors is needed to keep the community vivid and active (Kaspar 2009). The small group of highly involved (lead) users makes for a strong and stable co-creation process. Great importance is attached to this finding, as common co-creation definitions do not (explicitly) consider the difference between a “hub constellation” and a “meta-community constellation” or when to prefer which setting. Thus, one finding of this thesis is the essential importance of meta-communities maintaining and protecting co-creation processes. Moreover, meta-communities are assumed to encourage positive retrospective self-evaluation, and in consequence, create the basic motivational conditions for later phases of the current project or upcoming projects. 

In the DISC case study, not only lead users were involved in the co-creation process. After having built a prototype, a larger group of testers were invited to join the process. By this means, the co-creation persona concept was extended by one layer:

![Co-creation persona concept](image)

**Graph 17 Co-creation persona concept**

When the new group of beta-testers enters the established meta-community, lead users serve as support team, lowering barriers for first-time users/testers and creating a pleasant and supportive atmosphere. For experienced lead users, their position as ambassador or initiate encourages positive retrospective self-evaluation.

In later stages of the product development process or after product launch, another group of users might possibly join the community. In the DISC case, a large group of webmasters was invited right before product launch to become part of the “launch community”. Again, the more experienced users (lead users and testers) make for a
supportive atmosphere and get positive feedback and self-affirmation in return. This cycle of motivational practice is illustrated in the following graph.

Graph 18 Motivational needs during the co-creation lifecycle

Managing the co-creation process not only includes creating and maintaining motivational conditions but also knowledge dissemination within the company to fully exploit the potential residing in user input. Transaction cost, investments in relation-specific assets and knowledge sharing routines directly influence competitive advantage gained from relationships, according to Dyer and Singh (1998).
8. Conclusion

This thesis is concerned with the questions how co-creation can be designed and managed effectively and efficiently in order to contribute to long-term sustainable competitive advantage, and how co-creation can impact the definition and implementation of business models.

In the recent past the paradigm of value creation has started to change, moving from product-focused value chains to knowledge-driven collaborative environments. The underlying driver can be found in customers themselves who are informed and connected as never before. Modern technology enables individuals to become more active by facilitating communication and collaboration globally. The emerging value creating networks are characterised by increasingly permeable boundaries between industries and firms, as well as blurring roles of consumers and producers (Dyer and Singh 1998, Storbacka 2007).

8.1. A new theory of the firm?

In this complex environment, the ability to handle change permanently and to consistently position a firm in relation other actors in the network becomes a competitive advantage. Moreover, the changing role of customers challenges the traditional way how firms manage customer relations. Storbacka (2007) suggested spotlighting firm relations as focus of analysis in order to accommodate this trend, supporting Dyer and Singh (1998) and Woodruff (1997) who also called for a redefined theory of the firm as consequence of the customer’s changing role. Considering relationships to suppliers, partners and customers adds a new dimension to the common units of analysis on the firm and industry level.

However, this thesis did not discuss alternative theories but is concerned with the relation between a company and its customers, particularly a small group of selected lead-users. This approach revealed weaknesses of existing theory in assessing and leveraging firm relations, and thus, indirectly contributed to the question whether a new theory of the firm is required. According to Storbacka (2007), theory of the firm aims at explaining differences in performance among companies, for example by investigating
internal strengths and weaknesses and external opportunities and threats which is widely known as the SWOT analysis.

Porter (2008) focuses on external factors and attaches value to industry structure and firm positioning in order to explain firm performance. Applying his theory to the DISC case revealed that, even though Porter’s view is based on value-chain thinking, is a valuable tool to identify untapped potential for co-creation as the model allows considering the entire value network.

In contrast, the resource-based view (RBV) takes an inward-looking perspective, regarding resources and capabilities as driver of firm performance. Following this inside-out view, only assets that are valuable, rare, inimitable and non-substitutable (VRIN) can serve as source for sustainable competitive advantage. However, the resource-based view can hardly take into account that resources may not reside within the company but span boundaries. Customer relationships, or more specifically co-creation relationships, cannot be accounted for by this approach. Even if relationships are considered in the VRIN analysis, a relationship might possibly not be “valuable” in monetary respects but offer other benefits that the VRIN analysis does not consider. For example access to strategically important knowledge and technology, building relevant relationships or access to new markets.

Nevertheless, the resource-based view reveals underdeveloped resources and capabilities that might possibly turn out to be opportunities for co-creation projects. By transferring the resource-based view to the network as unit of analysis, instead of the single firm, it becomes a viable method to assess sources of competitive advantage in value networks.

8.2. A strategic co-creation plan

As discussed, defining co-creation projects, identifying candidates and managing the process requires a complex set of assets including relation-specific assets, knowledge-sharing routines, complementary assets and effective governance (Dyer and Singh, 1998). In order to fully leverage the potential of joint value creation, a management process needs to be established which defines processes and goals, selection criteria and responsibilities. The findings presented in chapter 7 may serve as framework for the preparation, implementation and maintenance of co-creation projects.
The intended management process may be put into a plan that fulfils several purposes. First, the plan is meant to establish knowledge sharing routines that enhance organizational learning and information dissemination. Moreover, defining processes and decision making procedures make for effective governance and low transaction cost.

Secondly, a firm’s co-creation team needs to identify customers that are strategically important to the company as they possess complementary resources or capabilities. At the same time, it must be assessed how the firm can be strategically important to them. The plan, thus, compiles all customer knowledge gathered to create a deep understanding of customers’ needs and values, their problems and strategies. This process requires cross-functional cooperation within the company and full commitment from top management.

Moreover, the co-creation plan helps getting commitment from the company management as it clearly describes the investment necessary to develop co-creation in a way that fully exploits the identified potential.

Besides, the co-creation plan serves as internal whitepaper for all employees to communicate the co-creation project, increase awareness and establish a co-creation-minded culture. A joint creation process affects various departments and requires broad commitment, calling for efficient communication and collaboration not only with customers but also internally.

Co-creation aims at exploiting the opportunities for value creation in the value networks, and at designing “value in use” propositions that may among customers as they use the offering differently. Vargo and Lusch (2004a) stated that customers are always co-creators of value. Following their reasoning, value does not reside in offerings but is created in use. This “value in use” concept is supported by Prahalad and Ramaswamy (2000) who regard customer as active players instead of passive audiences and call on firms to support their customers in the value-creation process. The DISC case clearly showed that sophisticated value propositions that account for varying customer experience levels help overcoming obstacles and significantly improve co-creation efficiency. Value propositions are one of the elements of Osterwalder’s (2004) business model ontology, reflecting the impact of co-creation on business models. Besides value propositions, also other (if not all) building blocks described by Osterwalder are affected.
Thus, I conclude that a strategic co-creation plan should be rooted deeply in corporate strategy as a company’s business models is fundamentally affected by the growing importance of knowledge and intangible value exchange. Companies may change their business models in a way that they contribute to the customers’ mission and vision, reflecting their values and supporting their goals.

8.3. Future research

The research reported here has focused on co-creation in early stages of the product development process. However, DISC’s co-creation concept allows users to choose the level of involvement themselves, either contributing on an abstract level in the idea/concept stage, or joining in the more practical phase of testing, to the point of mere customization by personalizing and embedding the finished product. To achieve a more comprehensive view of co-creation management, future research should therefore explore co-creation on all stages with particular respect to differences in motivation. Moreover, examining interdependencies between various stages and opportunities to influence future co-creation behaviour should be considered.

Co-creation literature has so far primarily considered relationships between companies and customers; however, the DISC case implies that untapped potential for sustainable competitive advantage resides in meta-communities. In these communities, all participating co-creation partners can get together and exchange knowledge and intangible value freely. For future research, I suggest to investigate the potential of co-creation communities, and explore how these initiated closed communities can be leveraged, for example by turning them into public brand communities.
9. References


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Appendices

Appendix 1 – Thesis proposal

This proposal is supposed to help me clarify the purpose and aims of my thesis by specifying the topic, describing methods, and predicting problems and outcomes. This proposal is a first draft and will be adapted and refined over the course of the project.

The research is based on a case study of Download.DISC.eu which is the international download community of the computer magazine DISC. Besides its central download platform, Download.DISC.eu currently develops a new offering that allows users to create a customized download section. This tool can easily be embedded within every website to provide visitors with free downloads. It features software from Download.DISC.eu’s existing collection; however, new software can be added through a simple recommendation process on the main Download.DISC.eu website. By that means, DISC aims at increasing the total amount of software available what is supposed to attract more visitors to the main page, and, thus, increase ad revenue.

In the broadest sense, DISC extends its concept of User Generated Content (UGC) beyond the features of conventional community sites such as comments or reviews. More specific, it involves users in the process of value creation, making itself supplier to support users creating their individual download service. This blurs the borders between the company and its environment and goes far beyond customization. DISC and its users enter a value creating network, driven by complex exchange of knowledge and intangible benefits. These forms of providing and receiving value are not accounted for by existing business models and, in consequence, challenge business strategy.

The general subject area of the thesis can briefly be described as “business models in value networks”, or the question how these social relationships can be converted in other (tangible) forms of value and generate sustainable business success. The leading research question is: How can competitive advantage be developed and sustained in value networks?

While the concept of consumer co-creation is widely accepted in literature and examined in terms of motivations, structure, evolution, there is little knowledge concerning performance of value networks, or, as Gulati (1998) puts it: The primary focus lies on the WHY question
while the HOW question is often neglected. The aim of this thesis, thus, is to contribute filling this gap by learning from the Download.DISC.eu case study. Following this project for six months will provide the necessary insights and hands-on-experience HOW the value network evolves and performs.

During this period, I will not only follow the project’s progress but also contribute actively with my findings. These will be based on an intense literature review, covering the areas value networks, business models and strategy, and resources and capabilities. For example Gulati’s social network perspective on strategic alliances and networks, Kothandaraman and Wilson on value creating networks, Prahalad and Hamel’s concept of the core competences of the corporation and Prahalad’s latest work together with Ramaswamy on co-creating unique value. Other core theories considered are, Vargo and Lusch’s theory of the Service Dominant Logic and the customer as a co-creator of value and thoughts following from this concept, for example by Grönroos. This review will be the basis for the definition of new value propositions reflecting the specific needs of the different stakeholders. In order to define value propositions for each target audiences in particular, pre-selected partners will be interviewed to explore their needs and identify an appropriate communications strategy.

This research is limited by its restriction to the Download.DISC.eu case but can nevertheless serve as a basis for generalized conclusions. The major advantage of the project is accompanied by the major problem: since the download platform tool is in its early stage the entire development process can be followed; however, the outcome and timeframe are unpredictable while the thesis work is strictly limited to six months.
Appendix 2 – Scribbles: Embed configurator (2 examples)
Appendix 3 – Ladder interview questionnaire (German)

DISC Download Partner
Integration Design
Einbinden der Sammlung in einem/mehreren Foren-Thread(s) oder auf einer separaten Seite?
Anzahl der zu erwartenden Tools in der Sammlung:
Unterkategorien? Unterkategorien einzeln einbinden? Fremde Gruppen einbinden?
Sortierfunktion für die Sammlung? Letztes Update, meiste Downloads, beste Bewertung?
Darstellung der Tools in der Sammlung als Icons oder Liste?
Beschreibungstext zu jedem Tool oder nur Name? Von DISC.eu oder eigener Kommentar?
Anzeige der DISC.eu User-Bewertung für jedes Tool?
Führt der Link direkt zum Tool-Download oder zur Gruppe? Individuelle Landing-Page?
(Anpassung der verlinkten Tool-Seite auf DISC.eu an ein gewünschtes Design, z.B. einblenden des Forum-Logos)
Tool-Sammlung: Webmaster Auswahl oder Push content (Bestenlisten)? Einbinden einzelner Tools oder nur einbinden der gesamten Gruppen-Sammlung bzw. Unterkategorien?
Diskussionen zur Tool-Sammlung im eigenen Forum oder reine Webmaster-Auswahl?
Soll es einen direkten Link zur Gruppe(anmeldung) auf DISC.eu geben?
Update Nachricht bei neuer Version an: Webmaster? Gruppenmitglieder auf DISC.eu?
Webmaster könnte so im eigenen Forum Diskussionen über neue Versionen anstoßen

Integration Technik
API (last.fm) oder RSS-Feed? Java Script Embed (Freeware.de)?
Geschätzter Webmaster Aufwand für die Integration?
Webmaster Administrations-Aufwand im laufenden Betrieb?
Falls ein gewünschtes Tool nicht auf DISC.eu vorhanden ist oder nur in einer alten Version: Prozess für neue Tool-Vorschläge oder Updates: maximale Freischaltungsdauer?
Was soll angepasst werden können: Farbe Hintergrund, Schriftart/größe….? DISC.eu Suchfeld einbinden?
Technischer Support für Download-Partner: Ansprechpartner bei DISC.eu? Foren für alle Webmaster/Download-Partner?

Gruppenseite auf DISC.eu
Personalisieren durch Logo/Banner, direkter Link zur Community, Beschreibung, ….
Gästebuch in der Gruppe, kein Forum (um den Administrationsaufwand gering zu halten)
Rechte: Schreibrechte, Leserechte: Wer wird Admin/Moderator der Gruppe? Welche Abstufungen sind notwendig?

DISC.eu Sonstiges
Sind redaktionelle Specials zu Gruppen gewünscht? („Die besten Bildbearbeitungstools, empfohlen von GRUPPE ABC“)
Gewinnspiele für die Gruppen auf DISC.eu – betrifft in erster Linie nicht die eigenen Foren-User, sondern nur DISC.eu Mitglieder. Möglichkeit, DISC.eu User für die eigene Gruppe (und damit das eigene Forum) zu interessieren: gewünscht oder zu viel Arbeit?
Jede Tool Seite zeigt Gruppen, welche dieses Tool empfehlen/in ihrer Sammlung haben
Appendix 4 – DISC Value hierarchy

Download Collection: Value hierarchy

Customer's goals and purposes
- Retain Autonomy
- Demonstrate Competence
- Develop Brand-Partnership

Desired consequences in use situations
- Manageable admin. effort
- Convenience & usability
- No obligations
- Free tool hosting
- Adaptability
- Broad(er) audience
- Relatedness
- SEO

Desired product attributes and attribute preferences
- Alerts
- Updates and user activity
- Options: passive user only
- Direct link to download
- Free bandwidth and storage
- Embed configurator
- Official profile on DCU
- Only guestbook
- CDC updates automatically
- No registration required
- Fast & easy upload process
- Visibility on tool pages and user profiles
- CHPL logo in CDC
- Back links