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DEFINING A VALUE CO-CREATION BASED BUSINESS MODEL
CASE ICE WALL SERVICE

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Abstract
It has been emphasized that companies can maximize the value in target customer segments by successfully managing the value co-creation. However, it has been argued that there is a lack of researches in academic literature focused on providing theoretical frameworks to help organizations to manage the value co-creation.

This study provides an understanding on how value co-creation with key participants of a service affects the form of business model and its elements. The aim of this study is to create the value co-creation based business model. To be able to form an understanding of the elements related the value co-creation based business model, it is first essential to take into consideration the core elements from which the business model forms. Second step is to research from which parts the synthesis of value co-creation is consisted of. The core elements of the business model and synthesis of the value co-creation create a theoretical framework. In the third part, there is analyzed through the theoretical framework how the value co-creation with the key participants affects to the elements of business model and come up with the results that describes from which parts the value co-creation based business model consists of.

Because the aim of the study is to provide understanding on the specific phenomenon, the research is conducted as a qualitative single case study, in which the case of the Ice wall service is analyzed. The study is conducted as an abductive research, in which the theory and empirical data are in interaction.

The data collection of this research consists of semi-structured interviews by interviewing different actors in a value network relating to the case service Ice wall. In addition, by managing a survey for the users of the Ice wall at the Valoa festival in Tampere, Finland and by observing assemble and use of the service during the event. There was also arranged an Internet-survey for the potential customers of the Ice wall.

According to the results of this study all the core elements of the value co-creation based business model are interconnected with each other. The core elements from which the value c-creation based business model consists of are actors, resources and mechanisms. The actor’s ability to co-create value for the end customer and actor’s ability to capture value from these investments affects to its willingness to be a part of the value network of the service. To support the co-creation of value the impact of the business strategy affects from the outside-in of the business model. This helps to understand, in which processes different kinds of actors, sufficient resources and mechanisms are needed.

According to empirical findings of this study, changes that happen in the value network have impacts to all actors and their ability to function. Value co-creation based business model helps to understand an effect of entire value network and avoids to get in stuck in the dyadic relationship of different actors. Created model provides a tool to analyze and communicate strategic choices and understand clearly how the business is consisted of and which kinds of elements have an impact to possibilities to succeed.

Keywords
service dominant logic, service, value in-use, value network

Additional information
The thesis is a part of the See through Environments –project of Center for Internet Excellence (CIE).
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1 INTRODUCTION

This study provides an understanding on how value co-creation with key participants affects the form of a business model and its elements, and the aim of this study is to create a value co-creation based business model. The research is conducted as a part of the See through Environments -project that is a joined project between Center of Internet Excellence (CIE), Technical Research Center of Finland (VTT) and Martti Ahtisaari Institute at University of Oulu. The See through Environments -project visions a future, where the limits of physical reality are overcome by technological solutions, interaction metaphors, applications and services. (Häkkilä 2013.)

1.1 Research background

A business environment has been characterized increasing complexity and uncertainty because of globalization and development of information and communication technology (Osterwalder 2004). Increasing marketplace dynamics, rapid technological developments and a change to imagine and combine different previously separated technological capabilities have created possibilities to offer new and valuable user experiences (Kijl, Bouwman, Haaker & Faber 2005). The development in business environment has affected on the traditional customer-supplier relationship (Teece 2010) and shifted the logic of exchange from traditional goods-dominant (G-D) logic towards service-dominant (S-D) logic (Lusch & Vargo 2006). In addition, the emergence of Internet and massive adaptation of e-commerce have expanded the usage of the term business model in managerial literature (Hedman & Kalling 2003, Demil & Lecocq 2010).

Development in the global economy and new communications and computing technology have created more alternatives for customers. Customer needs have variegated and supply alternatives have become more transparent resulting in more customer-centric business. (Teece 2010.) The traditional firm-centric view of value creation in which value lies in goods produced by firms and delivered to customers, is challenged by active, connected and informed customers (Prahalad & Ramaswamy 2004). Thus, the firms have become more co-operating with customers to be able to build up differentiated solutions and create more customer value (Lusch & Vargo...
According to Kijl et al (2005) to be able to offer new differentiated experiences, new business models are required. The academic literature shows that companies have difficulties to manage innovations that lie outside from their previous experience and where their current beliefs and practices do not necessarily fit. The business model provides a coherent framework that includes technological characteristics and potentials as well as the customers and markets in a same package. In addition, the business model is conceived as a tool, which mediates between technology development and economic value creation. (Chesbrough & Rosenbloom 2002.)

To be able to make profit it is necessary for a firm to be aware of how create value and satisfy target customers (Chesbrough & Rosenbloom 2002). In addition, it is essential to be conscious of the value network and the role of the focal firm in it (Chesbrough & Rosenbloom 2002, Shafer, Smith & Linder 2005). To be able to succeed it is important to determine the actors involved in the network and search the potential partners (Prahalad & Ramaswamy 2000, Palo & Tähtinen 2013) such suppliers, manufacturers, investors and customers (Prahalad & Ramaswamy 2000). In the early phases actors like research institutes, entrepreneurs and venture capitalists can present essential role as well (Kijl et al 2005). In a business model total value creation for all parties involved is been described (Zott & Amit 2010). Technological field is seen as knowledge intensive and for the stakeholders difficult to understand, the business model is a good tool to explain complex processes and illustrate how the value is created (Doganova & Eyquem-Renault 2009).

1.2 Research objectives and research questions

According to Teece (2010) a business model conveys the logic and provides data and other evidence that demonstrates a business’s ability to create customer value. The emerging reality like global competition (Gertner 2013) forces to expand the focus of value creation from costs, products and processes to perspective of quality, speed and efficiency (Prahalad & Ramaswamy 2004:2) to meet the constantly growing customer expectations (Gertner 2013) and see the new sources of innovation and creativity to earn profitable growth (Prahalad & Ramaswamy 2004:2). Many firms and organizations are investing in the development of new technological applications
to create new commercial services (Palo & Tähtinen 2011). When developing new technologies and services the customer’s needs should be taken into account (Palo & Tähtinen 2011), because the different technologies alone remain latent (Chesbrough 2010, Teece 2010). It is essential to develop new and innovative business models that utilize both dynamics and the value potential of a particular new technology (Chesbrough & Rosenbloom 2002). The business model offers a valuable way to classify and expand an understanding on business phenomena (Baden-Fuller & Morgan 2010) and firm can create a competitive advantage by adopting a new business model (McGrath 2010). Tuulaniemi (2011) refers that it is critically important to do planning work around the business model.

Business model is a tool that helps to understand, design, analyze and manage the business logic of the firm (Osterwalder, Pigneur & Tucci 2005), develop the business overall (Baden-Fuller & Morgan 2010) and create value for its customers and partners (Osterwalder et al 2005, Teece 2010). The creation of value is seen as the central process and purpose of economic exchange (Vargo, Maglio & Akaka 2008). Entrepreneurs and managers have to have a deep understanding of customer’s needs, analyze the value chain to understand how to offer what the customers want in a cost-effective way. Payne and Frow (2005) emphasize that companies can maximize the value in target customer segments by successfully managing the value co-creation. That can be seen a reason, why the traditional system of company-centric value creation that has served greatly over the past hundred years is now centered on co-creation of value (Prahalad & Ramaswamy 2004:2). According to Ramaswamy and Gouillart (2010) co-creation is a term that describes the emerging relationship between customers and companies, which retain the view that to be able to generate new experiences for end customers, it requires for the company also to design better experiences for internal and external actors.

Andreu, Sanchez and Mele (2010) argue that there is a lack of researches focused on providing theoretical frameworks to help organizations to manage the value co-creation processes and according to Coombes and Nicholson (2013) there can be seen that the research of value co-creation is still in its early stage. Hence, the aim of this study is to understand how value co-creation with key participants affects to the form of business model and create a framework of the value co-creation based
business model. The aims of this research will be met by answering the following main research question:

*What kinds of elements construct the value co-creation based business model?*

The concepts of the main research question will be opened with the help of the sub-research questions. According to Schweizer (2005) there is a large variation in understanding the elements of business models. Several researchers in academic research have established definitions of the business model (Brettel, Strese & Flatten 2012), but some of these definitions still differ widely from each other (Teece 2010). For that reason the first sub-research question focuses on the core elements of a business model and the first sub-research question is:

*What kinds of elements a business model is made of?*

Companies can maximize the value in target customer segments by successfully managing the value co-creation. However the concept of value co-creation can be seen complex and multifaceted, and its ability to serve scholars and practitioners is questionable. (Payne & Frow 2005.) Hence, it is essential to understand from which parts the synthesis of value co-creation is consisted of to be able to comprehend what value co-creation is fundamentally about (Saarijärvi, Kannan & Kuusela 2013). The second sub-research question is:

*From which parts the synthesis of value co-creation is consisted of?*

To be able to form an understanding of the elements related the value co-creation based business model, it is essential first take into consideration the core elements from which the business model is formed and from which parts the synthesis of value co-creation is consisted of. After these steps, the next stage is to research how the value co-creation with the key participants affects to the elements of business model. The third sub-research question is:

*How the value co-creation with the key participants affects to the elements of a business model?*
By answering to the first, second and third sub-research questions are able to create an understanding on researched phenomena and answer to the research question *what kinds of elements construct the value co-creation based business model?*

### 1.3 Research method

Because the aim of this study is to provide an understanding of the specific phenomenon, the research is conducted as a qualitative research. In the empirical part of this research will be analyzed a particular business case and the research will be conducted as an abductive research, where the theory and empirical data are in interaction (Koskinen, Alasuutari & Peltonen 2005: 15-16, 154). The dialogue between theory and empirical data induces a result that illustrates the researched phenomena.

‘Triangulation’ will be used in the empirical data collection, that means using multiple data sources and combining them into one (Ghauri & Gronhaung 2005:31, Koskinen et al 2005:73). The data collection of this research consists of semi-structured interviews by interviewing different actors in a value network relating to the case service Ice wall. In addition, by managing a survey for the users of the Ice wall at the Valoa festival in Tampere, Finland and by observing assemble and use of the service during the event. There was also arranged an Internet-survey for the potential customers of the Ice wall.

### 1.4 Key concepts

At this point, the basic concepts of this research are briefly introduced. The fundamentally important concepts of this study are ‘business model’, ‘service’, ‘value’, ‘value creation’ and ‘value co-creation’.

*Business model* is understood as a tool that explains how companies work, contains specific characteristics and the motivation (Magretta 2002). The creation and capture of value represent the central theme in the business model (Chesbrough 2007, Coombes & Nicholson 2013) and the business model provides a description of company’s position within the value network (Chesbrough & Rosenbloom 2002). In
addition, an explanation of how necessary different activities and resources are coordinated and shaped is presented in the business model (Mason & Spring 2011).

Service is seen as the fundamental basis of all exchange and provided through complex combinations of goods, money and institutions (Vargo et al 2008, Vargo & Lusch 2008a, Saarijärvi et al 2013). Service is also seen as a perspective on marketing rather than market offering (Grönroos 2008). In economic and social exchange, it is service that is exchanged for service (Vargo & Lusch 2013). Service is seen as an application of operant resources through processes and activities for the benefit of another actor or the actor itself (Vargo & Lusch 2004, 2008a, Vargo et al 2008). Notable here is that, the service is understood as a process and the goods are understood as service-delivery mechanisms. The term ‘service’ should not be confused with ‘services’ which means a unit of intangible output. (Vargo & Lusch 2013.)

The meaning of value is understood being always determined by the beneficiary of service as a unique and phenomenological experience of that benefit, thus it can be seen inherently customer oriented (Vargo & Lusch 2008a). Important here is that ‘phenomenological’ captures the experimental nature of value and value is seen as the holistic combination of resources that lead to it, in the context of other potential resources (Vargo & Lusch 2013). In another words value is seen derived and determined in-use, not in-exchange (Vargo et al 2008).

In this research, the value creation concept is seen following the view of Vargo and Lusch (2008a, 2013) who have defined it as an always-interactive process, in which the firm and customer are understood in relational context. According to Vargo and Lusch (2008a) the value co-creation makes value creation inherently relational and they see that value can not be created by any other way. Value co-creation through resource integration and service-for-service exchange points out the traditional dyadic exchange between companies and customers as well as observes more complex network of interconnected actors (Vargo & Lusch 2013). Ramaswamy and Gouillart (2010) describe the term value co-creation in a way supporting the view of Vargo and Lusch (2008a). Ramaswamy and Gouillart (2010) present that as a strategic basis for value co-creation is to encompass and enhance constantly
experiences for all stakeholders involved. Thus, value network masks the fundamental nature of exchange. Companies can not be seen deliver value independently, but only offer value propositions for the beneficiary of service and together collaboratively create value. (Vargo & Lusch 2008a.)

1.5 The structure of the research

This research consists of the eight different chapters. In the Figure 1. the course and the structure of this study are described.

**Figure 1. The structure of this research.**

The first chapter presents the background of this study and introduces the researched subject for the reader. The second and third chapters concern the theoretical part of
the research. The second part opens up the first sub-research question by analyzing the concept of business model. In the third part, the understanding related to value creation is deepened by applying the meaning of value co-creation. In the third part will be also opened the second sub-research question of this study. In a fourth chapter is presented the theoretical framework, which is based on the formerly presented theoretical parts in the second and third parts of this research.

The methodology and data collection method of this research are presented after the theoretical framework in a fifth chapter. First in the fifth chapter is introduced the case service and presented the research methods. In addition, there is described the data collection and analysis methods. After that, the empirical data is presented and details of the phenomena are discussed and analyzed in the sixth chapter. In addition, the empirical findings and the solution for the third sub-research question are opened in the sixth chapter.

The seventh chapter of the research addresses discussion of the theoretical part and the empirical study, which composes the conclusion of this research. The research question and the sub-research questions presented will be answered, the evaluation and the limitations of this study will be discussed and the suggestions for the future will be described.

In the eight part is listed the references that are used in this research. Appendixes of this research are presented after the references.
2 BUSINESS MODEL

This chapter provides a summary of literature review as an introduction to the business model theory. Following part of the chapter deepens the theoretical framework of this study by increasing the understanding of business models. In this chapter, different views of construction of the business model will be put together and the necessary core elements are collected for the business model framework.

The chapter also provides an answer for the first sub-research question stated: what kinds of elements the business model is made of?

2.1 Concept of business model

According to Osterwalder et al (2005) first time a term ‘business model’ is appeared in an academic article in 1960. After that, the term has been widely used in the business world, although the academic research has not systematically addressed the extensively accepted definition (Chesbrough & Rosenbloom 2002, Marshall, Hamermesh & Pirmohamed 2002, Schweizer 2005, Teece 2010, Zott, Amit & Massa 2010, Coombes & Nicholson 2013). According to Nenonen and Storbacka (2010) there has also been similar constructs as a business model, which have been ‘business idea’ and ‘service management system’.

The content of business model varies between different researches (Brettel et al 2012) and the discussion concerning business models has been vivid during the last decades (Zott et al 2010). Shafer et al (2005) suggest that authors have viewed the business model from different aspects, which has resulted in variation concerning definitions of the business model. Different views have been described it as a source of competitive advantage (Chesbrough & Rosenbloom 2002, Morris, Schindehutte & Allen 2005, Teece 2010) and as a driver of firm performance and importance for entrepreneurial ventures (Zott & Amit 2007). The business model is also emphasized to be strategically important for a firm’s potential to create and capture value (Morris et al 2005, Demil & Lecocq 2010, Teece 2010, Brettel et al 2012). Baden-Fuller and Morgan (2010) have researched that nowadays the term business model is more widely used than almost any other concept concerning business strategies. As one
reason is seen, that business model concept offers a fresh way to consider different options in uncertain, fast-moving and unpredictable environment, where commercial Internet and development of communication and information technology have made possible for businesses to do things they could not do before (McGrath 2010). As recipes, business models provide managers a way to distinguish varying types of business behavior and see what they are able to offer for their desired customers (Baden-Fuller & Morgan 2010).

The design of the business model is a key decision when creating new business as well as rethinking old models to make them fit for the future. Every business needs an individual business model, which fits just for the specific business. The business model implies different sets of activities, resources and capabilities to perform, and describes the cooperation relationships with partners, suppliers or customers. Each choice effects to business’ performance potential, capital expenditure, prices and stakeholders. (Zott & Amit 2010.) Business models are first developed by a company and after that delivered to the market (Coombes & Nicholson 2013).

A business model concept can be used on an abstract and conceptual level to describe the generic representation that can be applied in multiple sectors. On the other hand business model can also refer to already implemented real life businesses. (Demil & Lecocq 2010.) For example Johnson, Christensen and Kagermann (2008) write about Apple’s new business model that combines hardware, software and service elements in more ground breaking way compared to earlier pioneering digital firms in the 1990s. In addition, Baden-Fuller and Morgan (2010) suggest that the business models can be seen in two different ways, as scale and role models. The scale models provide a description of how business performs in a profitable manner, while the role models offer representations of particular and existing firms (Baden-Fuller & Morgan 2010). Each organization has a specific business model that is linked to a more generic and conceptual business model framework (Demil & Lecocq 2010).
2.2 Interaction between core elements of a business model

According to Ng, Ding and Yip (2013) the definition of a business model content is hard to define exactly. Morris et al (2005) have analyzed studies concerning business models and argued that diversity in the available definitions of business model causes substantive challenges for defining the nature and the elements of a model. Shafer et al (2005) have also analyzed different definitions of a business model and found that business models are described to consist of different kinds of elements and building blocks.

Morris et al (2005) see that a business model aggregates upon central ideas in business strategy such as Porter’s value chain concept and the extend notions of strategic positioning, resource based theory, strategic network theory and cooperative strategies as well as it involves choices related to firms boundaries and transaction cost economics. However, because competition and market situations are developing and firm’s need to stay competitive, the construct of the business model need to reconstruct (McGrath 2010). Findings of Demil and Lecocq (2010) research show that the sustainability of a firm depends on its capability to take action in developing its business model’s elements.

Demil and Lecocq (2010) have adopted the view of Penrose by seeing a firm as a bundle of resources and explaining the growth and sustainability of the firm as dynamic phenomenon and based on the interaction between and within the distinct core elements. A business model focuses on how to separate elements of the system fit into a working whole (Magretta 2002). Baden-Fuller and Morgan (2010) see that a business model brings together the separate elements, which alone do not possess lot of value, but combined they offer advantages and a way to success. To achieve competitive advantage and develop a successful business the architecture of a company’s business model is important to be differentiated and hard to imitate (Teece 2010). Each element has an effect on the way to success (Zott & Amit 2010), hence the various elements of business model should be cospecialized to each other and work together as a system (Teece 2010). The coherence between the firm’s core elements is essential, because a coherent set of choices offers the potential for superior performance (Demil & Lecocq 2010).
Therefore the business model can be seen created by the interactions between and within the different core elements. Interactions present the ongoing dynamics of a business model. Changes in core components will follow the decisions to develop new value propositions, to create new resource combinations and to make changes in the organizational system. For example, changes in the value network will cause changes in resources available. (Demil & Lecocq 2010.)

Business model dynamics also derive from changes within its core elements. For instance, changes within the resources may subsequently change components of the other elements. Some value propositions may create new opportunities for further value propositions as well as modifications inside the company and in the external value network. (Demil & Lecocq 2010.)

2.3 Core elements

The research of Morris et al (2005) shows that certain elements and perspectives concerning business model can be found from business model literature and most marketing researches seem to agree them. According to Morris et al (2005) business model includes elements related to the firm’s value offering, economic model, customer interface/relationship, partner network/roles, internal infrastructure/connected activities and target markets. These elements can be divided in three general categories: economic, operational and strategic. The economic level concerns the logic of profit generation, whereas the operational level represents an architectural configuration that focuses on internal processes and design of infrastructure that makes possible the firm’s value creation as well as to resource and knowledge management. The third, the strategic level describes the firm’s positioning in a market, interactions across organizational boundaries and growth opportunities. (Morris et al 2005.) In addition, Shafer et al (2005) have analyzed the research concerning business models and identified four major categories that have recurred frequently. The categories are strategic choices, creating value, capturing value and the value network. Strategic choices include issues such as customers, value propositions, offering and differentiation, creating value includes resources and activities, capturing value contains cost, financial aspects and profit, and value
network suppliers, customer relationships as well as information flows. (Shafer et al 2005.)

As a conclusion of categories listed by Morris et al (2005) and Shafer et al (2005) in this study the core logic of business model is seen formed through the elements such as value creation and value capturing within value network, value creating activities and as resources. In addition, because the content of the business model construction is based upon central ideas that are defined in business strategy and company’s underlying core logic (Morris et al 2005, Shafer et al 2005), the business strategy is also included as an effective core element to business model formation in this research.

2.3.1 Value creation and value capturing within a value network

Customer value creation is mentioned as one of the business model’s core elements in majority definitions related to business models (Shafer et al 2005, Morris et al 2005, Johnson et al 2008, Nenonen & Storbacka 2010, Coombes & Nicholson 2013). In the literature on business models, the term value creation is understood in various ways (e.g. Chesbrough 2007, Teece 2010, Nenonen & Storbacka 2010). However, since the purpose of this part of the research is to focus on identification of the core elements of a business model. In this paragraph the essential content of the term value creation is not been fully discussed but it is scrutinized in a deeper manner in the chapter three that concerns co-creation of value.

The definition of customer value proposition is seen as the starting point of a successful business model design (Hwang & Christensen 2008, Johnson et al 2008). To design good business models, entrepreneurs and managers have to have a deep understanding of users’ needs, consider multiple alternatives and analyze the value chain to understand how to create value in a cost-effective and timely fashion way (Teece 2010). However, because today’s services and customer preferences are increasingly complex as well as companies’ are increasingly specialized, it is difficult for the one company to offer an all-encompassing service that orchestrates total customer experience. The customer value is usually realized beyond the dyadic relationship between a company and customer. Thus, customer value propositions
need to be considered together with the value propositions to all other actors within the value network. (Shi & Manning 2009.) According to Hamel (2001) value network can include actors such as suppliers, partners, distribution channels, and coalitions. The company may be able to create unique relationships with any of these actors or with its end customers (Shafer et al 2005). Business model describes the participants’ roles and relationships as well as the transactions completed between the actors (Mansfield & Fourie 2004).

In strategy literature, the ability to establish strong partnerships can be seen as capability for the focal firm (Johnson et al 2008). Wirtz, Schilke and Ullrich (2010) also emphasize that the formation of successful partnerships is essential to take into consideration in the business model construction. Nenonen and Storbacka (2010) suggest that business model should “illuminate the relationships that the firm has with the various actors in its value network”. According to network theory, the firms can not be seen anymore as single actors competing for profits against each other. Today firms are been embedded in networks of social, professional and exchange relationships with other actors, while strategic networks offer for firms an access to information, resources, markets and technologies, which allows firms to achieve strategic advantages such as sharing risks and outsourcing value-chain stages. (Gulati, Nohria & Zaheer 2000, Shi & Manning 2009.) The role that a focal firm chooses to play within its value network extends its resources and is important to mention in its business model (Shafer et al 2005).

According to Shafer et al (2005) and Chesbrough (2007) besides the value creation, companies should be able to capture corresponding value in relation to the value they create within a value network. Nenonen and Storbacka (2010) and Baden-Fuller and Morgan (2010) present that a business model should describe how the firm earns profit from its operations. Concepts related to earnings logic are mentioned in different researches concerning business model in various terms such as “profit potential”, “revenue model”, “revenue logic”, “profit formula”, “returns for stakeholders” and “capture value” (Nenonen & Storbacka 2010). However, in this research the term value capturing is used.
Managers have to ensure not to confuse potential value with actual value, when they design business models. Although there might be a chance that companies with weakly formulated business models will succeed in the marketplace, the profitability can be estimating to be low since the value capturing and value creation have not been clearly thought. (Shafer et al 2005.) Because for the company it is seen essential to ensure that it creates value for itself while providing value for its customers, it can be seen profitable to understand the cost structure and velocity of key resources as well as revenue models (Johnson et al 2008).

2.3.2 Activities for value creation and value capturing

As an objective of the business model Zott and Amit (2010) see exploiting business opportunities by creating value for all the participants involved. Besides that, McGrath (2010) adds that business model that does not include creation of customer value does not create value for the firm either. As a concept business model helps to define a series of activities to satisfy the end customers and a logic that explains how to capture the value from all of those activities the company is operating (Chesbrough 2007).

To be able to success the focal firm has to create substantial value by differentiating from the competitors (Shafer et al 2005). According to Johnson et al (2008) successful business requires a company to think about the opportunities how to satisfy the needs of desired customers and ways to fulfill them as well. Activities can be seen as the most essential actions a company must take to succeed in operating an effective manner (Osterwalder, Pigneur & Clark 2010).

A properly crafted business model helps articulate the assumptions about cause-and-effect relationships and the internal consistency of strategic choices (Shafer 2005). Business model activities may include processes such as development, manufacturing, sales, brand-building and channel-management. In addition, the firm’s rules and metrics such as credit terms, lead times and supplier terms, and firm’s norms like approach to customers and delivering channels have to be mentioned. (Johnson et al 2008.) For a company it is advantageous to arrange its
activities in a unique way to differentiate from its competitors (Shafer et al 2005). Instead, unprofitable activities are not reasonable to sustain (Chesbrough 2007).

Firms must be able to decide what activities are important to be carried out inside or outside the company (Schweizer 2005). Objectively business models are sets of structured and interdependent operational relationships between a firm and its customers, suppliers, partners and other stakeholders. In addition, its internal units and departments such as staff and operating units are important to be included. Relationships between the firm and different actors are articulated in procedures or contracts and included in routines and mechanisms of a focal firm. As a subjective representation, the business models provide a theory on how to set boundaries to the firm, how to create the value and organize its internal structure and governance. (Doz & Kosonen 2010.) According to Teece (2010) business model describes the design or architecture of value creation and capture mechanisms. He defines that without a well-developed business model business can be seen failing in utilization of innovations.

2.3.3 Resources

Demil and Lecocq (2010) suggest that as one essential core element of business model must take into account resources and competences of the focal company. The research of Nenonen and Storbacka (2010) also shows that a comprehensive business model framework should include the description of firm’s resources that consists of its capability base, core competencies and assets. In this research all the physical and human resources are talked as “resources”.

Shi and Manning (2009) have described resources as the energy that the machinery of organization needs to work. Resources are like a car battery in business model, which company both consumes and replenishes (Shi & Manning 2009 via Linder & Cantrell 2001). The resources are mainly physical such as plant, equipment and stocks, and human like skilled labor that has a crucial role when creating successful business (Demil & Lecocq 2010). Every company has also generic resources that do not create competitive advantages (Johnson et al 2008).
When resources continuously work together, the company is able to generate value propositions in a profitable way, processes emerge and become ingrained in the business model (Hwang & Christensen 2008, Johnson et al 2008). For example, the economic value of a technology stays latent until it is commercialized in some way via a business model. Entrepreneurs and managers must expand their perspectives to find a suitable business model that is able to capture value from the technology. (Chesbrough 2010, Teece 2010.)

Recourses are assets that are required to offer the value propositions to the target customer (Johnson et al 2008). For the firms it is advantageous to integrate their resources and processes in a unique way (Johnson et al 2008), that differs from manners of competitors (Shafer et al 2005). While the customer expectations have been growing, the differentiation has become even more valuable (Getner 2013). The individual resources and processes do not separately make the difference but their relationship to another create enduring competitive advantage (Johnson et al 2008). Wirtz et al (2010) see that business model capability requires all stakeholders to use relational assets that are both value driven and partnership focused.

2.3.4 Business strategy

A business model is described as a system that identifies how the separate elements of business fit together and construct one working concept. Several business model researches share a view that a business model is in practice operating concept that reflects firm’s business strategy (e.g Magretta 2002, Osterwalder et al 2010, Morris et al 2005, Shafer et al 2005, Richardson 2008, Teece 2010) and provides a valuable way for managers to analyze and communicate their strategic choices (Shafer et al 2005). According to Payne, Storbacka and Frow (2008) traditionally business strategy of a company is seen conducted from the decisions relating to core business or product category a company should be operating in. Strategical decisions are largely based on the understanding of current organizational competences (Payne et al 2008) and explains how a company can differentiate and to do things better than competitors and create unique customer value (Magretta 2002).
Osterwalder et al (2005) propose that the business model conceptually ties strategy, organization and systems. Still it is important to remember, that the business model is not the same as strategy (Magretta 2002, Shafer et al 2005). Mansfield and Fourie (2004) clarify that when strategy defines the relationship between the firm and its environment then the business model is used primarily for implementing the strategy and according to Magretta (2002) describing how the elements of a business could form a working whole.

2.4 Framework of a business model

For every successful company it is essential to be able to update its business model and fulfill real customers’ needs with an effective business model (Johnson et al 2008). According to the research results of Morris et al (2005) and Shafer et al (2005) a business model forms through the elements that relates to value creation and value capturing within value network, to value creating activities and to needed resources and capabilities. Well-being of all organizations depends on their ability to create and capture value (Chesbrough 2007, Coombes & Nicholson 2013), to orchestrate their activities (Osterwalder et al 2010) and utilize resources (Demil & Lecocq 2010). In addition, because the business model construction is based upon central ideas in business strategy and company’s underlying core logic (Morris et al 2005, Shafer et al 2005), business strategy was also included as an effective core element to business model formation.

Baden-Fuller and Morgan (2010) see that a business model brings together the separate elements, which alone do not possess a lot of value, but when combined together offer advantages and a way to success. The coherence between the firm’s core elements is essential, because a coherent set of choices offer the potential for superior performance (Demil & Lecocq 2010). Therefore, the business model is created by the interactions between and within the different core elements. Interactions present the ongoing dynamics of a business model. Changes in core components will follow the decisions to develop new value propositions, to create new resource combinations and to make changes in the organizational system. (Demil & Lecocq 2010.)
The way, how the structure of business model and the core elements of it are understood in this study are shown in Figure 2.

![Figure 2. Framework of a business model.](image)

According to Figure 2, a business model consists of elements such as value creation and value capturing within value network, value creating activities and resources. In addition, business strategy affect in a center of a business model representing underlying core logic of a company. Interactions between and within the different core components are presented as ongoing dynamics structure in perimeter of business model.
3 VALUE CO-CREATION

Nowadays the customers have more choices to consume services than earlier. That is why, the meaning of value and value creation are rapidly shifting from a product and firm-centric view to personalizing customer experiences. The interaction between the customer and the service provider is becoming the focus of value creation and the informed, networked and active customers are increasingly willing to co-create value together with the company. (Prahalad & Ramaswamy 2004.)

Following part of the chapter deepens the theoretical framework of this study by increasing the understanding of the value co-creation. In this chapter are scrutinized the manner of how the concepts of value and value creation are changed in time and shifted to the view of value co-creation. In addition, here will be discussed on how the value co-creation is understood in the service dominant logic (S-D logic) and provided an answer for the second sub-research question that is from which parts the synthesis of value co-creation is consisted of?

3.1 Concept of value and value creation

The creation of value is seen as a primary target and central process of economic exchange (Vargo et al 2008). In academic literature, the concept of value has several meanings and any collective consensual definition have not been found (Grönroos 2008, Macdonald, Wilson, Martinez & Toossi 2011, Lindgreen, Hingley, Grant & Morgan 2012). Sometimes the value can be measured in financial terms such as earned revenues and cost savings, but it has also more abstract components like trust, affection, comfort and easiness of use. Usually, especially on consumer markets, the perceptions of the consumers are predominant. (Grönroos 2008.)

During the decades, the issue and locus of value creation for customers have gained the interest in academic literature (Grönroos 2008). The prevailing view, value-in-exchange, in that the value for customer lies in products that are outputs of companies’ manufacturing process, was challenged by an alternative view of value-in-use. In the view of value-in-use the value is not created by the service provider but rather it can be seen emerging in customer’s value-generating process. (Vargo &
From consumer’s and supplier’s perspective value-in-use is the more important value concept when talking about long-term marketing success (Grönroos 2008). Value-in-use is not a new approach to value creation, but in the business economics literature it has long been overshadowed by the view of value-in-exchange (Grönroos 2008 via Vargo & Morgan 2005).

Vargo (2008) suggests that the concept of value-in-use should be replaced by the concept of value-in-context, because the value creation takes place in a context and the value that emerges from usage is dependent on the context. Grönroos and Ravald (2011) have reflected on the view of value-in-context and they agree that creation of value during usage is dependent on its context and it is changing in the context. However, the value creation is taking place during usage and integration of resources, and the customer's value creation has dynamic nature, whereas a context has not (Grönroos 2007:11, Grönroos & Ravald 2011). The dynamic nature of value creation has to be reflected in the used concept of value, because of that it is more accurate to use the concept of value-in-use instead of a static value-in-context that does not describe the nature of value creation appropriately (Grönroos & Ravald 2011).

### 3.2 Different views to value co-creation

Traditionally marketing has adopted the logic of exchange from economics, in which the focus has been in exchange of goods (goods-dominant, G-D logic) or variously in manufacturing logic, which can be seen limit the potential for creating customer loyalty and value (Lusch & Vargo 2006, Ballantyne, Frow, Varey & Payne 2011). Vargo and Lusch (2004) presented the service dominant logic (S-D logic) as a new dominant logic to replace the previous dominant logics. They have also refined the S-D logic in subsequent publications (Vargo & Lusch 2008a, 2008b). According to S-D logic, value creation should no longer be viewed as taking place during the manufacturing process (Vargo & Lusch 2008a, Grönroos 2008). Value creation has increasingly been observed to be created through the customer's own processes and/or jointly created between the customer and the service supplier (Möller 2006, Vargo & Lusch 2004, 2008a), which requires the combined activities of the supplier and the customer (Möller 2006). In addition, the S-D logic presented by Vargo and
Lusch (2004, 2008a) along with other academic articles (Prahalad & Ramaswamy 2004, Payne et al 2008) have highlighted that the customer is always a co-creator of value and an actor who co-creates the value ‘in use’.

According to Saarijärvi et al (2013) “The different approaches to value co-creation are not so very contradictory per se, but instead operate at the complementary levels of analysis.” Based on the definition by Holbrook (1999:5) the customer value can be seen “as an interactive, relativistic preference experience” when also Payne et al (2008) have suggested that the experience defines what customer sees valuable. Macdonald et al (2011) have also endorsed the view of Vargo and Lusch (2004, 2008a) by defining value as “a customer’s outcome, purpose or objective that is achieved through service”. Vargo and Lusch (2008a) have also accepted the term ‘experiential’ as an interchangeably term for ‘phenomenological’ when presenting the meaning of value. In this research, the value creation concept is seen following the view of Vargo and Lusch (2008a) by defining it as an always interactive process, in which the firm and customer are understood in relational context. According to Vargo and Lusch (2008a) the “value co-creation” makes value creation inherently relational and they see that value can not be created by any other way.

According to Grönroos (2001: 24-25, 2007: 186-188) in the Nordic School aspect of service marketing value can be seen created in interactions between a customer and a firm. Value for customer can be defined as an event that makes them feel better assisted by value creation process. The firm’s role in value creation process is act as an intermediary by offering value propositions, not delivering value. (Grönroos 2008.) Vargo and Lusch (2004, 2008a) agree Grönroos (2008) by saying that both the offeror and the beneficiary of service collaboratively create value. However, in the service dominant logic (S-D logic) Vargo and Lusch (2004, 2008a) extend their logic to a broader aspect and see that in the S-D logic the co-creation of value makes value creation inherently relational. When service logic focuses more on the dyadic relationship between the company and the customer, by making clear distinction between customer service logic and provider service logic (Grönroos 2008), the S-D logic emphasizes the role of networks (Saarijärvi et al 2013).
In a center of the S-D logic is the co-creation of value through all social and economic actors, inter-linked resources and engagements (Vargo & Lusch 2008a, 2008b). Hence, value becomes a joint function of the actions of actors involved and is therefore always co-created (Vargo & Lusch 2008a). As another notable difference with service logic is that the market offering can be seen expanded from a goods-based offering to including firm-customer interactions. That enables marketers make no longer only restricted value propositions, but actively take a role in the customers’ value generating process and that way become a co-creator of value with customers. (Grönroos 2008.)

The article of Vargo and Lusch (2004) relating to the service dominant logic (S-D logic) increased the international discussions on what the service perspective on business can offer in general. When the orientation of marketing shifted from the view of G-D logic to the S-D logic, the perspective from tangible output and discrete transactions moved to adapt the perspective in which the intangibility, competences, dynamics, exchange processes, relationships and operant resources are central (Vargo & Lusch 2008a). Marketing is not concerned with more than the exchange the goods and the goods are not anymore the denominator of exchange (Vargo & Lusch 2004). According to Grönroos (2008) both, goods and services can be seen consumed as services. He sees that service can be seen as a value-supporting process, whereas goods are more like value-supporting resources (Grönroos 2006).

3.3 The service-dominant logic view to value co-creation

In the service dominant logic (S-D logic) service is seen as the fundamental basis of all exchange and provided through complex combinations of goods, money and institutions (Vargo et al 2008, Vargo & Lusch 2008a, Saarijärvi et al 2013). In addition, it is seen as a perspective on marketing rather than market offering (Grönroos 2008). Customers are not primarily interested in what they buy and consume, but the positive consequences embedded in the service activities they utilize (Grönroos & Ravald 2011). The key findings of Edvardsson, Gustafsson and Roos (2005) support the view, in which the service is been generally considered as a perspective than only as an activity. They suggest understanding the service as a perspective on value creation rather than a category of market and defining value
creation through service rather than service through market offerings. Notable here is that, the service is understood as a process and the goods are understood as service-delivery mechanisms. According to Vargo and Lusch (2013) it is service that is exchanged for service. Service is seen as an application of operant resources through processes and performances for the benefit of another actor or the actor itself (Vargo & Lusch 2004, 2008a, Vargo et al 2008). At the same time, the term ‘service’ should not be confused with ‘services’ which means a unit of intangible output (Vargo & Lusch 2013). Vargo and Lusch (2004, 2008a) see that this definition is more inclusive and it captures the function of all business companies.

Service dominant logic (S-D logic) can be seen bringing separate parts of earlier presented marketing theories together in a new configuration. The Nordic School service management thinking (Grönroos 2008) espouses similar views with the S-D logic. The basis of the approaches is that the value is not seen created by exchange but in joint co-creation and demonstrated in value-in-use (Lindgreen et al 2012). Elements of the S-D logic can be seen discussed also with similar characteristics in viable systems approach (VSA) that suggest every business as a system in a relational context looking for viable actions through interaction with other actors. The S-D logic has similarities also with the discussions relating to group approach of Industrial Marketing and Purchasing (IMP) that concerns the actors-resource-activities model. (Nenonen & Storbacka 2010, Ballantyne et al 2011, Lindgreen et al 2012.) In addition, the origins of the relationship marketing (RM) concern business-to-business relations such as the S-D logic (Lindgreen et al 2012). Abela and Murphy (2008) have also researched the ethical issues relating to marketing and proposed: “Many of the foundational premises of the S-D logic are inherently ethical”. They have found the S-D logic to be as a positive development for marketing ethics by facilitating the seamless integration of ethical accountability into marketing decision-making.

### 3.4 Identifying a synthesis of value co-creation

According to Ramaswamy and Gouillart (2010) value co-creation affects to the way of companies think about their business strategy and operations. According to Payne et al (2008) traditionally business strategy of one actor is seen conducted from the
decisions of in which core business or product category a company should be operating in. However, according to service dominant logic (S-D logic) business strategical decisions starts by understanding the customer’s value generating processes and choosing which of these processes the service supplier wishes to be a part of and aims at providing support for the better co-creation of value (Payne at al 2008).

Instead of only stating that actors co-create value, to enhance the understanding of value co-creation, it can be seen essential to clarify for whom value is co-created (for service provider and customer) and what resources can be seen needed in joint creation and through what kinds of mechanisms is value co-created. These three issues can be seen offer a synthesis of value co-creation. (Saarijärvi et al 2013.)

3.4.1 Actors

Vargo and Lusch (2008a) see that all social and economic actors can be seen as resource integrators and exchange between different actors improves their own state of being. Value co-creation is seen as an interactive process, in which the both service provider and customer are involved (Grönroos 2008, Payne et al 2008, Vargo & Lusch 2008a, Macdonald et al 2011) and considered in an inherently relational context (Vargo & Lusch 2008a).

For value co-creation to occur, the actors’ have to be able to recognize the incentives. The incentives can consist of monetary rewards or more subjective and intrinsic benefits. (Saarijärvi et al 2013.) Because the customer can be seen always as a co-creator of value (Vargo & Lusch 2008a), it brings pressure for the service provider to perceive customer’s intrinsic, extrinsic and social motivations for co-creation with the company (Saarijärvi et al 2013 via Antikainen 2011). In addition, companies’ ability to create value includes taking into account its partners’ requirements in the value network (Lindgreen et al 2012).

Company cannot unilaterally create and/or deliver value, but both the offeror and the beneficiary of service can create value collaboratively. Company’s role is to act as a value facilitator, who can only offer value propositions, instead of create or deliver
value for customers. (Vargo & Lusch 2008a.) By offering superior value propositions to company’s relevant target customers, it should result in greater opportunities for co-creation of value (Payne & Frow 2005). According to Vargo and Lusch (2008a) value propositions are the one of the key foundational premise in S-D logic. Value propositions can be seen establishing connections and relationships (Vargo et al 2008) and bringing opportunities for the focal firm to engage suppliers, customers, and other beneficial actors (Ballantyne et al 2011). Grönroos (2008) also espouses the view that through interactions between the company and its customers, it enables the company to engage itself in its customer’s value-generating processes. The company is able to directly and actively influence to processes of customers by engaging itself in the customers’ value creation and jointly co-create value with customers. By this way, the company is no longer only constricted to create value propositions, but able to engage itself in customers’ value fulfillment. (Grönroos 2008.) Received value by the company can be in revenues, profits, referrals et cetera. When managing successfully value co-creation and exchange, companies can acquire to maximize the lifetime value of desirable customer segments. (Payne & Frow 2005.)

For the firm it is also possible to expand the market offering when including firm-customer interactions (Grönroos 2008). Service providers can be seen engaging customers in a dialog with them (Payne et al 2008). Ballantyne (2004) has researched the dialogue and its role in the relationship specific knowledge, and explored that the dialog can be seen as an interactive process of learning. According to Payne at al (2008) service provider and customer have together opportunity to co-create value through customized offerings (Payne et al 2008). For the company some customers are more valuable than others are, and surplus of unprofitable customers destroys value. An output from the value creation process based on customers’ economic value; customers are valuable to a company only if also company is able to offer some value for them. (Lindgreen et al 2012.)

According to service-dominant logic (S-D logic), the customers are considered to be co-creators of value (Prahialad & Ramaswamy 2004, Vargo & Lusch 2008a). Customers have to learn to use, maintain, repair and adapt the offering to their individual needs, usage situations and behaviors (Vargo & Lusch 2004). In these
situations they can be seen representing the role of a consumer, a competence provider, a controller of quality, a co-producer and/or co-marketer (Payne et al 2008 via Storbacka & Lehtinen 2001). According to Rifkin (2000) customers are willing to develop relationships with service providers that can provide them their needed services over an extended time. At the same time, the customer has also the opportunity to affect to the activities of the service provider. These possibilities for the service provider and the customer to participate the consumption process have essential impact to value creation process and marketing. (Grönroos 2008.)

The starting-point is that customers consume services, otherwise said they buy goods and/or services (Vargo & Lusch 2004, 2008a). By consuming services customers create value themselves through a dynamic process, and value for customers emerges during the usage (Grönroos & Ravald 2011). Therefore, value creation should no longer take place in the manufacturing process, but governs in customers’ own consumption process (Vargo & Lusch 2004, 2008a, Grönroos 2008). According to Tapscott and Williams (2006) customers are no longer seen as passive targets of marketing actions, but reconfigure their roles from consumer to contributor and creator, who eventually determine and create value in their value-creating processes. This view of the customers’ role implies that value is been created when customers use services (Grönroos 2006, Grönroos & Voima 2013). The value co-creation process involves the service provider to merely offer superior value propositions, then customer that determines value and co-creates it with company at the given time and context (Payne et al 2008).

The customers have choices to create value either by engaging in self-service or by going to the market place (Vargo & Lusch 2004). Value can include along economic, strategic and behavioral dimensions. Customers’ perceived value dependent on their ability to achieve their goals in usage situation. Customers are willingness to maximize the perceived benefits and minimize the usage of resources they have. (Lindgreen et al 2012.) To be able to succeed in self-service, the customer must have all sufficient physical and mental skills and/or tools (Vargo & Lusch 2004, Grönroos 2008a). Service providers can find a competitive advantage by focusing on the total process of consumption and use (Vargo & Lusch 2004). Engaging itself with customers’ practices and be able to participate with the consumption process.
(Grönroos 2008), service provider is able to learn from customers and develop own offerings and provide more varied procedures than it is possible for the customer in self-service context (Vargo & Lusch 2004, Grönroos 2008).

3.4.2 Resources

According to service-dominant logic (S-D logic) the service should be seen as a fundamental basis of exchange (Vargo & Lusch 2008a). Consumers do not only need goods; they need to perform mental and physical resources that satisfy their needs (Vargo & Lusch 2004). From the perspective of value co-creation, there is a change in the traditional role of the company that is seen only as a provider of goods and the customer that has seen only as a provider of money (Saarijärvi et al. 2013). According to Vargo and Lusch (2004) “Over time, exchange moved from the one-to-one trading of specialized skills to the indirect exchange of skills in vertical marketing systems and increasingly large, bureaucratic, hierarchical organizations.”

According to service-dominant logic (S-D logic) all economic and social actors can be seen as resource integrators (Vargo & Lusch 2008a). The resources deployed by individual customers, firms, groups of customers, brand communities or other configurations of actors, put together for the purpose of enhanced value creation (Saarijärvi et al 2013). The application of unique and uniquely integrated resources motivates and constitutes exchange, both economic and otherwise (Lusch & Vargo 2006: 43-56, Vargo & Lusch 2008a). Customers pursue activities and processes that support their own resources or resources acquired from outside sources. To be able to use services, some resources customer has to purchase, whereas other resources already exist with the customer. The customer also needs required skills to be able to develop the value potential of resources into value-in-use. If they do not own the skills and resources which are required to make use of the resources provided by the other actor, value-in-use will be non-existent or lower than otherwise. The value for the company is then dependent on the value the resources present for the customer. (Grönroos 2008.) That is why, it is essential to understand what kind of resources are eventually engaged in value creation (Saarijärvi et al 2013).
Focusing to the service dominant logic (S-D logic) it requires to keep look on the intangible, dynamic resources that can been seen as the fundamental source of competitive advantage and performance for the actors (Vargo & Lusch 2004, 2008a). Operand resources have been defined as resources in which an operation or act is performed to produce an effect. Operant resources are on their part described to been employed to act on operand resources and other operant resources. (Vargo & Lusch 2004 via Constantin & Lusch 1994.) Operant resources such as knowledge and mental competences are typically human, while operand resources such as raw material are typically physical (Vargo & Lusch 2004, 2008a). The use of knowledge can be extended to the entire supply chain (Vargo & Lusch 2004). The way the value is been created affects the amount and quality of customer skills and knowledge, because the operant resources can be seen versatile and individual (Saarijärvi et al 2013).

The customer has become an operant resource rather than an oprand resource (target) and customers can be seen involved in the entire value chain in acting on operand resource (Vargo & Lusch 2004). Grönroos (2008) support the idea that customers are the value creators and they create value for themselves in their everyday practices by applying skills held by them together with using resources provided by a company. People can have basic operant resources such as physical and mental skills (Vargo & Lusch 2004).

3.4.3 Mechanisms

The service-dominant logic (S-D logic) emphasizes that through a set of processes and resources the service provider seeks to create value propositions (Vargo & Lusch 2004). It requires actors to be able to interact directly with one another and utilize their expertise by working on a resolution (Ramaswamy & Gouillart 2010). Processes involve mechanisms, such as activities, procedures, tasks and interactions, which support the co-creation of value (Vargo & Lusch 2004, Payne et al 2008). Also Grönroos (2008) sees value co-creation as a process of activities and interactions by actors involved. Venue of value creation can be seen consisting of economic and social actors by interacting and exchanging resources within networks (Vargo & Lusch 2008a).
Managers need to manage the company’s resources by executing decisions that mobilize, coordinate and deploy them in efficient and effective ways (Lindgreen et al 2012). This can be seen essential in order to determine clearly the value propositions and provide a total customer offering that satisfied customer’s needs (Grönroos 2008, Vargo & Lusch 2011). To succeed in value co-creation Ramaswamy and Gouillart (2010) suggest companies to provide platforms that focus gathering experiences of the key actors and allow actors to interact and share their knowledge. Different purposes to share information could be for example gathering customer’s requirements for a new product, improving other fulfillment, or figuring out the best sales pitch for a new offering (Ramaswamy & Gouillart 2010). Customers pursue activities and processes, such manufacturing, accounting and advertising, which support their own resources or resources acquired from outside sources (Grönroos 2008).

Relationship between the service provider and the customer is essential to see as a set of longitudinal, dynamic, interactive experiences and activities using practices that are partly deliberate and unconscious (Vargo & Lusch 2004, Payne et al 2008). However, often there can not be found the mechanism that ensures that all the actors such as the operator in the components plant, the manufacturing manager of the factory, the salespeople responsible for the end customers and customers are affected conducting a dialogue. IT systems of businesses do not always help parties share their experiences and develop an understanding of problems and priorities, but they present a potential option. (Ramaswamy & Gouillart 2010.)

Because value can be seen created in customer practices, the service provider should focus on supporting value creation in those processes (Grönroos 2008). The success of organizations in capitalizing the needs of customers does not come from finding ways to provide efficient, standardized solutions but from making it easier for customers to acquire customized service solutions through involvement in the value-creation process (Vargo & Lusch 2004). Investing to the actions that support co-creation of value, it can result in greater productivity, reduce turnover and lower costs of stakeholders (Ramaswamy & Gouillart 2010).
3.5 Synthesis of value co-creation

Value is not anymore understood only as a company’s output and price (Vargo et al 2008), but it is defined to be always determined by the beneficiary of service as a unique and phenomenological experience of that benefit, thus it can be seen inherently relational and customer oriented (Vargo & Lusch 2008a). Value is seen created through the customer's processes and/or jointly created between a customer and a service supplier (Möller 2006, Vargo & Lusch 2004, 2008a).

According to Vargo and Lusch (2008a, 2013) value co-creation happens through resource integration, and service-for-service exchange observes more complex network of interconnected actors than traditional view of dyadic exchange relationship between a company and a customer. Besides the resource linkages actors are seen connected also through common governance mechanisms that are generated by the actors in the network (Vargo & Lusch 2013).

In this research, an integration of value networks’ actors, resources and mechanisms, and an effect of strategy for the business is understood to create a synthesis of value co-creation. The picture of the synthesis is presented in the Figure 3.

![Figure 3. Synthesis of a value co-creation.](image)

The idea of the synthesis follows the view of Saarijärvi et al (2013). They have presented that instead of only stating that actors co-create value, but enhance the
understanding of value co-creation, it has been essential to clarify for whom value is co-created (for service provider and customer) and what resources can be seen needed in joint creation and through what kinds of mechanisms is value co-created.

In addition, Ramaswamy and Gouillart (2010) have found that value co-creation affects the way of companies think about their business strategy and operations. According to service dominant logic (the S-D logic) business strategical decisions start by understanding the customer’s value generating processes and choosing which of these processes the service supplier wishes to be a part of. That is why, planning for co-creation is seen more as an outside-in than as a traditional inside-out planning process. (Payne at al 2008.)
4 THEORETICAL FRAMEWORK OF A VALUE CO-CREATION BASED BUSINESS MODEL

Nowadays products, services, and their underlying technologies and customer preferences are increasingly complex and firms are increasingly specialized. That is why, it is become difficult for one company to offer an all-encompassing service to orchestrate total customer experience. (Nenonen & Storbacka 2010.) Business model as a tool helps companies to understand better their businesses in developing business environment (Osterwalder et al 2005) and by managing successfully the value co-creation it helps companies to maximize the value in their customer segments. The main theoretical contribution of this study is to create a business model that includes the view of value co-creation.

The theoretical concept of the value co-creation based business model is presented in the Figure 4. The model is created by connecting the theoretical frameworks of the business model (presented in the chapter 2.4) and synthesis of value co-creation (presented in the chapter 3.5).

![Figure 4. The theoretical framework of a value co-creation based business model.](image)

In the Figure 4, all social and economic actors (A1-An), including service providers and customers, are seen as resource integrators who together consists the value
network (VALUE NETWORK) of the business (Vargo & Lusch 2008a, 2013). Actors are connected not only by their represented resources (RESOURCES) but also through common governance mechanisms (MECHANISMS) that are generated by the actors in the value network (Vargo & Lusch 2013). In the Figure 4, the actors co-create value (VCC) by integrating their resources with different kinds of mechanisms, and they capture value (VC) from the investments they have made in value co-creation process. Interactions between and within the different core components are presented as ongoing dynamics structure (DYNAMIC STRUCTURE) in perimeter of business model.

The theoretical framework of value co-creation based business model will be used in the chapter 6 as a tool for analyzing the empirical material of this study and finding the answer for the third sub-research question.
5 METHODOLOGY

The chapter introduces the design of this study and begins with an introduction of the business case and continues by presenting the methodology and research methods. Following there will be presented the data collections and analysis methods, and the chapter concludes by describing the process of analysis of the gathered empirical data for this research.

5.1 The case of the Ice wall service

This research is conducted as a part of the See through Environments –project that is a joined project between Center of Internet Excellence (CIE), Technical Research Center of Finland (VTT) and Martti Ahtisaari Institute at University of Oulu. The project visions a future, where the limits of physical reality are overcome by technological solutions, interaction metaphors, applications and services that enables the illusion of see-through materials that make the invisible information visible for human eye. (Häkkilä 2013.)

According to the See through Environments –project the aim of this research is to study business models and value co-creation and create a value co-creation based business model. The Ice wall service, that is an interactive interface combined light and ice, was chosen be the business case of this study. (Häkkilä 2013.) The service has not been in commercial use earlier, but it was employed in the Valoa festival at Tampere on 8.2.2014 in cooperation with the Valoa festival, Evident Solutions Oy and ice sculptor Sami Kauhanen. Mainly the empirical material of this research will be based on the information that was acquired from the experiences relating this event.

5.2 Methodology and research methods

In this study the most suitable methodology for conducting the research is the use of qualitative method. Because the aim of this study is to provide an understanding of the specific phenomenon that has previously little known, the qualitative research can be seen the most workable (Koskinen, Alasuutari & Peltonen 2005: 15-16). In
addition, Hirsjärvi, Remes and Sajavaara (2009:81-81) have stated that when research is done in an unexplored area, the qualitative methods can be seen suitable choice. In qualitative research a researcher have also better possibilities to take into account the influence of social processes and the valid and reliable information (Ghauri & Gronhaung 2005:110). It can be seen essential in this research, because the aim of this study is to research the certain phenomenon from the different perspectives and try to understand it better and factors relating it. The goal in this research is not either in statistical outcomes that would be seen conventional for the quantitative research (Ghauri & Gronhaung 2005:109, Koskinen et al 2005:37).

According to Ghauri and Gronhaung (2005:109) different method alternatives are the data collection through historical review and analysis, surveys, field experiments and case studies. Because the aim of this study is to research the interaction relating different actors and resources in unexplored business context and the case study method has been commonly used for examining groups, individuals and relations between and within organizations (Johnston, Leach & Liu 1999), the case study can be seen as the most suitable choice. According to Koskinen et al (2005:156) case study method makes possible precisely research complicated phenomena of business economics and helps to understand completely business phenomena in a quite realistic business environments. Especially when the researched phenomenon cannot be easily studied outside its natural context, the case research is a useful method (Bonoma 1985). This is the case of this research for getting the authentic information of the different views relating to the researched phenomena. According to Dubois and Gadde (2002) the qualitative case study method makes possible to collect and use multiple types of sources in different ways, which can provide a better understanding from the researched phenomenon.

The case study also enables conduct the research in a context-sensitive way and makes for the researcher possible to learn in-depth from the contemporary phenomenon. In addition, there is an advantage when researching contemporary set of events that can affected very little by the researcher. (Yin 2003:9.) This kind of research process is observed an abductive research logic that is typical approach for the case study (Dubois & Gadde 2002). The abductive approach is seen as a mixture of deductive and inductive approaches (Dubois & Gadde 2002), in which the theory
and empirical data are in interaction. The dialogue between theory and empirical data induces a result that illustrates the researched phenomena. (Koskinen et al 2005: 15-16, 154.) An abductive approach is seen fruitful if the researcher’s aim is to discover new things. That enables researcher to modify the theoretical model after gaining the empirical findings and theoretical insights from the research process. (Dubois & Gadde 2002.) By this way, the goals set for this research can be reached, because it is seen essential to retain a possibility to guide the progression of the research relating to the results of the empirical part.

According to Ghauri and Gronhaug (2005:118-119) in case study research the chosen cases should correspond with the theoretical framework and variables in it. This research was conducted as a single case study and the selected case was seen the most suitable to represent the researched phenomenon as well as to reach the objectives of the See Through Environments –project (Häkkilä 2013). The context of this research is seen unique, because the co-creation of value has not earlier connected to be a part of business model framework. In addition, the case service Ice wall has not earlier researched for the purpose of commercial use. According to Johnston et al (1999) when researcher chooses cases, each case should be carefully selected so that either predicts similar results but for predictable reasons. Relating to the phenomenon that is researched in this study, it was unable to find more cases from the similar context, so after consideration there was settled on a single case study.

5.3 Data collection and analysis methods

Data collection methods mean systematic procedures that help gathering data and analyze it for finding the answers to the research questions. In business studies generally accepted techniques are structured, semi-structured or unstructured interviews, surveys and observations. (Ghauri & Gronhaung 2005:109, Koskinen et al 2005:45;73, Tuomi & Sarajärvi 2009:73.) Various sources can be used either as alternatives, side by side or as rolled into one in a different ways relating to researched problem and resources available (Koskinen et al 2005:73). For the use of the multiple data sources is called as ‘triangulation’ (Ghauri & Gronhaung 2005:31). For the researcher it can be seen important to combine versatile material to avoid
misinterpretation and to see only one view as a fundamental truth (Dubois & Gadde 2002).

It is important to choice how, from whom and in what way the data is collected. The choices are dependent on type of information needed and possibilities how to collect the data. (Ghauri & Gronhaung 2005:31.) These are the reasons that have also an impact to data collection of this research and to choice to use the triangulation. The data collection of this research consist of semi-structured interviews by interviewing different actors in value network relating to commercial use of the Ice wall service.

Managing a survey for the users of the Ice wall at the Valoa festival and setting an Internet-survey for the potential customers of the Ice wall service, and by observing assemble and use of the Ice wall at the Valoa Festival event.

5.3.1 Interviews

In a qualitative research as a typical data collection method are seen interviews, which are also very suitable to use in case studies. In addition, interviews take into account customer as an active and essence-creating party. (Hirsjärvi et al 2009:200.) In this research, the interviews were assessed to be the most suitable data collection method and they were conducted in semi-structured form. Semi-structured interview can be seen as thematic interview, which is relatively flexible method for data collection, but still efficient with guided and pre-formulated interview questions. This allows gathering information of predetermined themes and flexibility to repeat the questions and correct misunderstandings as well as ask further questions emerged during the interviews. (Ghauri & Gronhaung 2005: 132-133, Koskinen et al 2005: 79-80, 104, Tuomi & Sarajärvi 2009:73.) This kind of chance the researcher does not have for example in surveys (Tuomi & Sarajärvi 2009:73). That is also the reason, why despite the diverse range of used data collecting methods of this research interviews were keep as a main data collection method.

By interviewing different actors from the different aspects relating the commercial use of the Ice wall service, this research was able to reach the versatile material and for researcher to understand the different views relating to researched phenomena. All the chosen interviewees related to the group of professionals that were a part of
the Ice wall construction at the Valoa festival on 8.2.2014. In the Table 1. is presented the interviewed professionals, dates and durations of the interviews. First interviewee was event manager Lasse Hytönen at Valoa Festival, who was interviewed twice, before and after the event of Valoa. Ice sculptor Sami Kauhanen, was interviewed once after the Valoa festival. Juha Rämälä and Panu Åkerman at the Evident Solutions were interviewed once in a shared interview also after the festival.

<table>
<thead>
<tr>
<th>Interviewee</th>
<th>Date</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Event manager Lasse Hytönen at Valoa Festival</td>
<td>31.1.2014</td>
<td>35 minutes</td>
</tr>
<tr>
<td>Event manager Lasse Hytönen at Valoa Festival</td>
<td>14.2.2014</td>
<td>41 minutes</td>
</tr>
<tr>
<td>Ice sculptor Sami Kauhanen</td>
<td>14.2.2014</td>
<td>40 minutes</td>
</tr>
<tr>
<td>Juha Rämälä and Panu Åkerman at Evident Solutions</td>
<td>12.5.2014</td>
<td>1 hour 10 minutes</td>
</tr>
</tbody>
</table>

5.3.2 Survey

In qualitative research the data is often collected through interviews and observations. However, it is also quite common that the studied data may be quantified and the analysis itself is qualitative. (Ghauri & Gronhaung 2005:109-111.) In this research, taking into consideration the time available, the survey was seen the most effective tool to get the needed information (Ghauri & Gronhaung 2005:118-119, 124) that was unable to get with the interviews. In this research the information relating to the options and attitudes of the end users of the Ice wall at the Valoa and to potential end-customers were gathered with the surveys.

The questionnaire for the end users of the Ice wall at Valoa was gathered by asking closed multiple-choice questions. Initially, the plan was to interview people and ask them some more descriptive open-ended questions. At the end, the festival environment was too distracting because the volume of the music was high and the space was really crowded, it was decided to ask only some short closed questions. There was neither an option to interview people. The total amount of the respondents for the surveys was 19, nine of them were male and 10 female, the average age of the respondents was 29.18.
The second survey that was made for the potential end customers of the Ice wall service was published on Internet. For the answers, it was open during the 27.1.2014-3.3.2014. The respondents’ gender and age range is presented in the Table 2. The questionnaire got answers from 64 respondents, from which 33 were females and 31 males. Most of the respondents were 24-29 years olds and the second most of them were 24-29 years old.

Table 2. Gender and age of the respondents of the Internet-survey

<table>
<thead>
<tr>
<th>Gender</th>
<th>Responses</th>
<th>Age</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>33</td>
<td>under 18</td>
<td>0</td>
</tr>
<tr>
<td>Male</td>
<td>31</td>
<td>18-24</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td></td>
<td>24-29</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td></td>
<td>30-39</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td></td>
<td>40-49</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>50-59</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td></td>
<td>over 60</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>64</td>
<td>Total</td>
<td>64</td>
</tr>
</tbody>
</table>

The internet-questionnaire was made as a descriptive survey. The descriptive surveys are often used to obtain consumer attitudes towards some certain product and to understand respondents’ behavior, motivations and satisfaction (Ghauri & Gronhaung 2005:126). The questionnaire was seen as a most suitable method to collect opinions of potential end-customers in short time. The questionnaire included both the closed and open-ended questions. According to Ghauri and Gronhaung (2005:128) if the answers of the respondents will be liked to be categorize in the analyzing chapter, they suggest to use closed questions. If the answers will not be liked to be limited to any categories, they suggest using open-ended questions.

5.3.3 Observation

With interviews observations are one of the most often used data collection methods in qualitative research (Ghauri & Gronhaung 2005:111). Observation as a data collection method includes listening and watching people’s behavior and collect first-hand information in a natural setting (Yin 2009:11). In observation is also possible to capture the dynamics of social behavior in a way that is not possible in
through questionnaires and interviews (Ghauri & Gronhaung 2005: 120-121). At the Valoa festival, the observation was chosen as data collection method for gathering information of the behaviors of end-users and other actors relating to the Ice wall service.

The observation was adapted as a non-participant observation. In the non-participant observation the observer is a natural part of the event but the observation occurs hidden and the people who are being observed do not know that they are being observed and by whom (Ghauri & Gronhaung 2005:120-122). According to Ghauri and Gronhaung (2005:121) observation enables researcher to have access to what people actually do instead of what they might think to do.

5.4 Process of analysis

Empirical material was planned to gather from the actors that were organizing the Ice wall service at the Valoa festival and from the end users of the service at the event. Because it was seen difficult to evaluate the possibilities to make survey at the Valoa in advance, it was decided to collect the extra information by creating the Internet-survey for the potential end users of the Ice wall. In the Internet-survey, the aim was to gather views of how the customers see the Ice wall service and understood better how does the Ice wall interest people. The researcher made also observations during the Valoa to get more information from the use of the Ice wall, but in the analyzing process the observation material was considered mainly overlapping with material from interviews and surveys.

In the analyzing process, as a first there was analyzed the material from the interviews, second the material from the surveys and at last the observational material. Because the material attained from the interviews was seen the most fruitful, it was used as a main source in this research. The material from the surveys and observations was used only when the information could not been found from the interviews.
5.4.1 Interviews

There were made five interviews with the professionals that were organizing the Ice wall service at the Valoa festival. Semi-structure interviews were proceeded through the central themes that were chosen at beforehand. The used themes in the semi-structured interviews were based on the prior knowledge relating to the literature review. From the interviews got data was very fruitful from the perspective of the aim of this research and it could be utilized well in this research.

All the five interviews were recorded and then transcribed. The transcribed material was total 20 pages and it grouped according to the themes that were presented in the theoretical framework of the value co-creation based business model in the chapter four of this research. The themes were “actors within the value network”, “resources”, “mechanisms”, “value capture and value co-creation” and “strategy”. The same themes were also used in the final data analysis chapter of this research.

5.4.2 Surveys

Because of the distracting environment at the Valoa festival, the end-customers of the Ice wall service was impossible to interview, it was decided to achieve their perspective with a short questionnaire.

The questionnaire for the end users of the Ice wall at Valoa was gathered by asking closed multiple-choice questions. By using the short questionnaire with closed questions, the researcher got information from the experiences of the users. The information got from the Valoa was complemented with the information that was got from the Internet-survey.

The Internet-questionnaire was made in the survey platform Survey Monkey and it was open during 27.1.2014-3.3.2014 on internet. The survey was marketed in official channels of Center for Internet Excellence (CIE), personal channels of different researches of CIE and on web page Patiolla.fi.
The used themes in the Internet-questionnaire and Valoa-questionnaire were based on the prior knowledge relating to the literature review. The surveys were made in a co-operation with the Center of Internet Excellence (CIE) and from this reason; the questionnaires included questions that were unimportant for this research, but essential for the other researches of CIE. That is why, some of the questions were beforehand selected out from this research. The questions intended for this study are Q1-Q2, Q10-Q11 and Q16a in the Internet-questionnaire and Q1-Q2 and Q9 in the Valoa-questionnaire.

The construction in the both questionnaires was kept clear and questions relating the respondents’ background were positioned to the beginning of the questionnaire. In the questionnaires was used both closed questions and open-ended questions.

5.4.3 Observation

In case the results from the interviews and questionnaires would have been failed, observations were made to make sure that there is enough empirical data from the opinion and attitudes of the actors in the Ice wall value network. The researcher of this study operated as an observer and after the event was made notes from the observations. The observations included views from the behaviors of the actors who were organizing the Ice wall at the Valoa festival and views of the people who used the Ice wall service at the event.

At the Valoa festival, the people who were observed did not know that at the same time they were spending time at the festival their actions were observed.
6 ANALYSIS OF THE EMPIRICAL RESEARCH

This chapter leads to the empirical research that concerns the issue how the value co-creation affects to the elements of the business model in the business case of the Ice wall. The Ice wall case will be analyzed through the elements of the theoretical framework of the value co-creation based business model. The theoretical framework is presented in the Figure 4. The elements under the analysis will be actors, resources and mechanisms of the Ice wall service. In addition, there will be discussed how the value is captured and co-created and how the competition strategy can be seen formed in the Ice wall service.

The goal of the analysis is to research the elements and find the answer for the third sub-research question that is stated as how the value co-creation with the key participants affects to the elements of business model.

6.1 Actors within a value network

Nowadays services and their underlying technologies are increasingly complex and firms are increasingly specialized. It is difficult for one actor to offer an all-encompassing service and to orchestrate total customer experience. (Nenonen & Storbacka 2010.) Interviewees pointed out that to work the Ice wall service needs different kinds of specialized competences that any single actor do not represent alone. In the Table 3. is listed all the actors that are involved in the value network of the Ice wall service. Actors are end-customer, ice sculptor, ice provider, event organizer, technology provider and other content creators that are depending on the specific use of the Ice wall.
Table 3. The actors of the value network of the Ice wall service

<table>
<thead>
<tr>
<th>Actor</th>
</tr>
</thead>
<tbody>
<tr>
<td>End-customer</td>
</tr>
<tr>
<td>Operator</td>
</tr>
<tr>
<td>Event organizer</td>
</tr>
<tr>
<td>Ice sculptor</td>
</tr>
<tr>
<td>Ice provider</td>
</tr>
<tr>
<td>Technology provider</td>
</tr>
<tr>
<td>Other content creators (e.g. graphics and sound)</td>
</tr>
</tbody>
</table>

In marketing and management literature the customers are considered as co-creators of value. In order to assist value co-creation process companies have to understand the customer’s point of view and identify customer’s needs and desires. (Prahalad & Ramaswamy 2004, Grönroos 2006, Vargo & Lusch 2008a.) According to empirical data, from the end-customers point of view, the Ice wall could be seen offering entertainment features on events and working as a distinctive advertising channel.

It (the Ice wall) offered experiences and when I was asking around, people saw it interested because it is attractive. It (the Ice wall) fits well in this kind of event. Lasse Hytönen

According to the survey that was made for the users of the Ice wall at the Valoa festival, 16 from the 19 respondents found the Ice wall impressive and entertaining, and only three did not. In addition, 18 of the respondents experience the Ice wall interesting and only one respondent did not. Results are presented in the Table 4.

Table 4. Do the end users of the Ice wall (at the Valoa festival) see the Ice wall impressive, entertaining and interesting.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Yes</th>
<th>No</th>
<th>Can not say</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impressive</td>
<td>16</td>
<td>3</td>
<td>0</td>
<td>19</td>
</tr>
<tr>
<td>Entertaining</td>
<td>16</td>
<td>3</td>
<td>0</td>
<td>19</td>
</tr>
<tr>
<td>Interesting</td>
<td>18</td>
<td>1</td>
<td>0</td>
<td>19</td>
</tr>
</tbody>
</table>

According to Internet-survey that was made for the potential end-customers, the respondents found the Ice wall service relatively impressive, entertaining and interesting service. They were asked on a scale from one to seven, in which seven means that a respondent totally agree a proposition and number one means a
respondent do not agree with it. From the 64 respondents an average score for the proposition that the Ice wall was seen “impressive” was 5.67, for “entertaining” was 5.35 and for the “interesting” was 5.59. On the Table 5. is listed how the respondents were composed between the propositions.

Table 5. How impressive, entertaining and interesting the potential customers of the Ice wall see the service.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>Rating</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impressive</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>7</td>
<td>14</td>
<td>22</td>
<td>18</td>
<td>5.67</td>
<td>64</td>
</tr>
<tr>
<td>Entertaining</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>6</td>
<td>18</td>
<td>27</td>
<td>7</td>
<td>5.35</td>
<td>64</td>
</tr>
<tr>
<td>Interesting</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>5</td>
<td>15</td>
<td>28</td>
<td>12</td>
<td>5.59</td>
<td>64</td>
</tr>
</tbody>
</table>

In addition, according to the Internet-survey respondents were substantially interested to try the Ice wall service. To the proposition would you definitely like to experiment with the Icewall, from the 66 respondents an average score was 5.26. On the Table 6. is presented how the average score was made up.

Table 6. Potential customers' interest to use the Ice wall service

<table>
<thead>
<tr>
<th>Answer / Options</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>Rating</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>I would definitely like to experiment with the Icewall</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>8</td>
<td>10</td>
<td>13</td>
<td>23</td>
<td>5.26</td>
<td>66</td>
</tr>
</tbody>
</table>

The respondents of the internet questionnaire were also able to leave open answers to question of what kinds of ideas and feelings the Ice wall installation awakes in a respondent. Total of 64 answers were collected for the questionnaire, from which the Survey Monkey research platform made analysis that highlighted 22 most commonly used word and phrases. All the 22 most commonly used portions are presented in the Table 7. The first five of the most commonly used words were “would”, “ice”, “interesting”, “interesting” and “funny”. The word “interesting” showed up twice, because the original answers were written in Finnish and there are two synonyms for the word “interesting” in Finnish language. According to the five most commonly used words, the respondents found the Ice wall interesting and funny.
Table 7. Summary of 22 most commonly used words and phrases respondents give to the question what kinds of ideas and feelings the Ice wall service awakes.

<table>
<thead>
<tr>
<th>Word</th>
<th>Phases</th>
<th>Persentance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Would</td>
<td>6</td>
<td>9.38</td>
</tr>
<tr>
<td>Ice (written in finnish)</td>
<td>6</td>
<td>9.38</td>
</tr>
<tr>
<td>Interesting (written in finnish)</td>
<td>6</td>
<td>9.38</td>
</tr>
<tr>
<td>Interesting (written in finnish, synonym word for the interesting)</td>
<td>5</td>
<td>7.81</td>
</tr>
<tr>
<td>Funny</td>
<td>4</td>
<td>6.25</td>
</tr>
<tr>
<td>Something</td>
<td>3</td>
<td>4.69</td>
</tr>
<tr>
<td>Fine</td>
<td>3</td>
<td>4.69</td>
</tr>
<tr>
<td>Idea</td>
<td>3</td>
<td>4.69</td>
</tr>
<tr>
<td>Exciting</td>
<td>3</td>
<td>4.69</td>
</tr>
<tr>
<td>Use</td>
<td>3</td>
<td>4.69</td>
</tr>
<tr>
<td>Seems interesting</td>
<td>2</td>
<td>3.13</td>
</tr>
<tr>
<td>Experience</td>
<td>2</td>
<td>3.13</td>
</tr>
<tr>
<td>Ice (written in english)</td>
<td>2</td>
<td>3.13</td>
</tr>
<tr>
<td>Interesting (written in english)</td>
<td>2</td>
<td>3.13</td>
</tr>
<tr>
<td>Anything</td>
<td>2</td>
<td>3.13</td>
</tr>
<tr>
<td>Special</td>
<td>2</td>
<td>3.13</td>
</tr>
<tr>
<td>Fun</td>
<td>2</td>
<td>3.13</td>
</tr>
<tr>
<td>So</td>
<td>2</td>
<td>3.13</td>
</tr>
<tr>
<td>That</td>
<td>2</td>
<td>3.13</td>
</tr>
<tr>
<td>This</td>
<td>2</td>
<td>3.13</td>
</tr>
<tr>
<td>Only</td>
<td>2</td>
<td>3.13</td>
</tr>
<tr>
<td>To see</td>
<td>2</td>
<td>3.13</td>
</tr>
</tbody>
</table>

End-customer’s interest to test and use new and experimental features is a worthy characteristic for event organizer (a potential buyer of the service) to utilize the Ice wall in content creation of the event or as a part of their marketing actions. If customers are interested on the possibilities to create new experiences and try new things, the innovation like the Ice wall is a suitable choice.

According to Juha Rämälä an event organizer is needed, because they provide a venue for the Ice wall. Without a venue, it is not possible for the end-customers to use the Icewall service. Rämälä mentioned that there is no point to construct the Ice wall without suitable event (an event organizer) and customers of the event (end-
customers of the Icewall). In addition, Rämälä brought up that the purpose for the event organizer to utilize the Ice wall would be to differentiate on its market with a new main attraction.

Well, audience is needed! I think that some kind of party there have to be. Without audience, there is no reason to build it (the Ice wall) up. Alternatively, of course, if there is good winter, why not it (the Ice wall) could be used for example in outdoor advertising and things like that. Juha Rämälä

Optimal client for this service (the Ice wall) would be an actor who is interested of these kinds of new ventures and wanted to differentiate in its market with this kind of main attraction. Juha Rämälä

According to Panu Åkerman besides to the event organizer, other essential actors are ice sculptor who carves the ice and constructs the wall and ice provider who produces or purchases the raw material (ice).

At least the ice and ice sculptors and that party who produces the ice are needed and then some kind of event. And then, depending on the event, some kinds of event organizers and producers also. Panu Åkerman

The ice sculptor is seen also as an operator of the Ice wall service who would has the rights to administrate the service.

It would be good, if the operator would manage at least two of these fields. And that would be actually very much. For example, the operator would be an ice sculptor who can also produce the ice. So the ice sculptor can optimize the ice and make different kinds of versions of it. And develop the material in a way to find out which kind of ice would be the most suitable. Juha Rämälä

Technology provider is seen having a key role, because they have a needed competence to create an interactive feature to the Ice wall.

We would not be able to do anything like this without them (Evident Solutions Oy), because they can do this coding thing. They are in a key role relating the whole thing, we do not have such coding knowledge. Lasse Hytönen

Depending on the event and the purpose of the Ice wall other content creators besides a provider of an interactive feature (technology provider) could also be needed.
And besides a software provider an ice sculptor might need some other content creators like graphics and sound. Panu Åkerman

According to the observation that was made in the Valoa festival, it was noted that in the construction of the Ice wall needs a skills of an ice sculptor, an ice provider and someone who delivers the coding technology. In addition, for creating the commercial use for the service the event organizer has to be interested to offer this kind of service on its event. To the event organizer’s willingness to purchase the service is been influenced the end customers interest to use the Ice wall service. According to observation, end customers of the Valoa paid attention for the Ice wall and people came to use it and ask more details about it.

Findings of this research support the view that the end-customer is seen as a value co-creator. Without an interest of the end-customer, there is no need for this kind of service and other actors’ investments for the service would be lost. From this reason, the end-customer can be seen as a co-creator of value, because value co-creation happens always through the interest and participation of the end-customer. In addition, empirical data supports the theoretical part by agreeing that there are several relevant actors necessary for creating a successful value network, alone any single actor would not been able to create the Ice wall service. According to interviewee Lasse Hytönen, if some of the actors are missing or are somehow unable to function, it affects to the other actors and value network’s ability to work. That is why, it can be said that all the actors are affected by themselves and the list of the all actors is timely changing.

6.2 Resources

According to service-dominant logic (S-D logic), all economic and social actors can be seen as resource integrators (Vargo & Lusch 2008a). The customers and firms are in continuous interaction creating innovative ways of using resources for the purpose of value creation (Saarijärvi et al 2013). According to empirical data, the actors can be seen providing unique resources that integrated uniquely create the Ice wall service. Importance of resource integration was emphasized, because interviewees
have brought out that alone any single actor is not able to represent all the needed skills and competences that are needed in the Ice wall service.

Operant resources have been defined as resources on which an operation or act is performed to produce an effect. Operant resources are on their part described to been employed to act on operand resources and other operant resources. (Vargo & Lusch 2004 via Constantin & Lusch 1994.) From the empirical data came up several resources that are essential for creating the Ice wall service, the resources are presented in the Table 8. Operant resources relating to the Ice wall are abilities to produce ice, carve and optimize ice, project management skills, knowledge for technical basics and coding and understanding of the technical features, abilities to create content such as graphic and sound, natural curiosity and low or developed technical skills. Ice material, financial investments and audience were recognized as operand resources.

<table>
<thead>
<tr>
<th>Resource</th>
<th>Actor</th>
<th>Operant / Operand</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ability to produce ice</td>
<td>Ice producer / ice sculptor</td>
<td>Operant</td>
</tr>
<tr>
<td>Raw material (ice)</td>
<td>Ice producer / ice sculptor</td>
<td>Operand</td>
</tr>
<tr>
<td>Ability to carve ice</td>
<td>Ice sculptor</td>
<td>Operant</td>
</tr>
<tr>
<td>Ability to optimize ice</td>
<td>Ice sculptor</td>
<td>Operant</td>
</tr>
<tr>
<td>Project management skills</td>
<td>Operator</td>
<td>Operant</td>
</tr>
<tr>
<td>Knowledge for technical basics</td>
<td>Operator</td>
<td>Operant</td>
</tr>
<tr>
<td>Knowledge for coding and understanding of the technical features</td>
<td>Technical provider</td>
<td>Operant</td>
</tr>
<tr>
<td>Abilities to create other content (e.g. graphic design and sound producing)</td>
<td>Other content creators</td>
<td>Operant</td>
</tr>
<tr>
<td>Financial investments</td>
<td>Event organizer</td>
<td>Operand</td>
</tr>
<tr>
<td>Audience (customers of the event)</td>
<td>Event organizer</td>
<td>Operand</td>
</tr>
<tr>
<td>Natural curiosity</td>
<td>End-customer</td>
<td>Operant</td>
</tr>
<tr>
<td>Low or developed technical skills</td>
<td>End-customer</td>
<td>Operant</td>
</tr>
</tbody>
</table>

According to Rämälä and Hytönen, as operant resources came up skills like carving ice and producing or purchasing the raw material. Because a consistency and a surface of ice have to be in a certain shape, the ability to optimize ice as a material was also mentioned. Rämälä brought up that it would be valuable if a suitable
operator would be an ice sculptor, because ice sculptors have abilities to sculpting and optimizing ice, which are helping to manage the Ice wall service.

It requires an ice sculptor and things relating ice. And you would have to think about how the disassembly (of the Ice wall) and everything will happen. The production is very heavy process that starts from picking up the ice from the lake. Lasse Hytönen

It would be good, if the operator would manage at least two of these fields. And that would be actually very much. For example, the operator would be an ice sculptor who can also produce the ice. So the ice sculptor can optimize the ice and make different kinds of versions of it. And develop the material in a way to find out which kind of ice would be the most suitable. Juha Rämälä

In addition, technical basics such as skills for use tools like a computer, a camera and lightning system, and project management skills are necessary operant resources.

But it needs some kind of technical knowledge that is familiar with computers and is able to connect things together with cable. Because there is always needed some kind of camera and probably some lightning system. So it is actually quite detailed action, which needs technical knowhow. Juha Rämälä

Knowledge for coding and understanding of the technical features became emphasized as operant resources from the empirical data. Rämälä, Åkerman and Hytönen agree that coding is a skill that needs specialized knowledge that only software company or other equivalent actor have.

Our (Evident Solutions’) product is quite narrow, basically it is a software package that is set up in a right way to produce that experimental experience feature. The software package should support that issue and be extended in a way that it would easily bring the content that event producer exactly wants (for the Ice wall). Juha Rämälä

But that technical production is exactly the thing that we are doing and nothing else. Panu Åkerman

Content creation for the wall needs special knowledge such as Evident Solutions did in this case. Without technical abilities, it would be impossible to build up the wall (the Ice wall). Lasse Hytönen
Depending on the event and the purpose of the Ice wall, the skills of the other content creators can be seen required as operant resources. As an example, resources related to graphic design and sound producing were mentioned.

And besides a software provider an ice sculptor might need some other content creators like graphics and sound. Panu Åkerman

The importance of the resources that event organizer represents was emphasized from the empirical data. Financial investments and audience of the event (customers of the event) were seen essential operand resources. In a case of the Ice wall the event organizer has the meaningful role to create cash flows also for the other actors relating to the service.

And that event organizer would like to pay something for having it. Juha Rämälä

Absolutely we would like to have it by next year, but we have to think about financial questions and sometimes these good things have to be left outside, if there is not enough money. Lasse Hytönen

Well, audience is needed! I think that some kind of party there have to be. Without audience, there is no reason to build it (the Ice wall) up. Alternatively, of course, if there is good winter, why not it (the Ice wall) could be used for example in outdoor advertising and things like that. Juha Rämälä

The Ice wall is suitable in many kinds of events that are targeted to children and adults, because it does not need specific skills for the user. Rämälä mentioned that required skills for using the Ice wall are the natural curiosity and low technical skills that even a little child has.

It should be such a thing that human’s natural curiosity gets to go and try it, and then notice that it (the Ice wall) responds to touch. Juha Rämälä

Three years olds knowledge should be enough for being able to use it (the Ice wall). Then all the interactions after that, which are more complex and need more reception and intelligence, are different cases. But the basic interaction of the Ice wall should be so simple that even a little child can use it and for example do not tip it over. Juha Rämälä
According to empirical data, some resources that are required to use the Ice wall customers already have like curiosity and some skills they have to acquire by learning how the Ice wall works. Depending on at the early stage of technical development of the Ice wall, some of the service’s possibilities remain unclear. For example, at the Valoa festival tested option to drew a picture on Ice wall through mobile access needs more technical skills for the end-customer than the mainly used drawing technique.

The motivation for use a service have to have. I mean that willingness to use it arise from somewhere. Juha Rämälä

To people’s willingness to use that remote access affects how well it (remote access) is implemented. I mean that do they have to separately study how to use it or is it simple enough. Usually this kinds of features remain without use if they are too difficult and if the user do not get any reasonable respond or feedback from it. Juha Rämälä

According to empirical material, it can be noticed that creating successful business only one actor does not have to represent all the relative resources, but the focus is in the resources that the value network represents. Thus, all the actors can be seen as resource integrators, because the different resources of actors have an essential role for the Ice wall service. Together the different resources integrate uniquely and create the service.

6.3 Mechanisms

The service-dominant logic (S-D logic) emphasizes that through a set of processes and resources the service provider seeks to create value propositions (Vargo & Lusch 2004). It requires actors to be able to interact directly with one another and utilize their resources by working on a resolution (Ramaswamy & Gouillart 2010).

According to empirical material, business that consists of cooperation of several actors of value network needs mechanisms that support actors’ ability to offer value proposition to end-customers and co-create value with them. The mechanisms that came up in the empirical material of the case Ice wall are presented in the Table 9.
Table 9. The sufficient mechanisms for co-creating the Ice wall service

<table>
<thead>
<tr>
<th>Mechanisms</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Business management</td>
<td>Manage the value network (partnerships, customers) of the service</td>
</tr>
<tr>
<td>Distribution mechanisms</td>
<td>Coordinate delivery of the service</td>
</tr>
<tr>
<td></td>
<td>Coordinate information flows</td>
</tr>
<tr>
<td></td>
<td>Manage sales</td>
</tr>
<tr>
<td></td>
<td>Coordinate advertising actions</td>
</tr>
<tr>
<td>Practice management</td>
<td>Manage process of a construction and disassembly of the Ice wall</td>
</tr>
</tbody>
</table>

According to empirical data, Rämälä suggests to integrate the different parts of the Ice wall together and to harness one party that systematically manages and coordinates the whole service. Rämälä sees that the most suitable operator would be someone from the field of ice sculpting, because he or she would already have required knowhow for working in this kind of business and integrate the Ice wall service as a part of his or hers previous work.

We would sell or offer it (the Ice wall) for the use of some third party such as an ice sculptor. The ice sculptor would be a good option for the operator, because the Ice wall could easily be connected to their previous work. Hence, the ice sculptor would offer this interactive Ice wall service as a part selection. Alternatively, of course, someone else than an ice sculptor could also work as an operator. Juha Rämälä

The empirical data shows that to be able to integrate the different resources and connect the different actors together it should happen through the different kinds of mechanisms. Rämälä and Åkerman mentioned that the Evident Solutions would sell or offer the concept of the Ice wall to some external operator, who would independently manage the business and practices relating to the Ice wall. Tasks of the operator would be creating all the sufficient actions such as manage the partnership network and customers, coordinate the distribution mechanisms, and manage sales, construction and disassembly of an ice wall. Hence, the mechanisms represent practices that are partly deliberate, such as agreements, and partly actions that based on routines and unconscious behavior.
Probably the ice sculptor would be there in between the service (the Ice wall) and customers. In this case (the Ice wall) I mean a customers for example event operators, who would let the ice sculptor know which kind of system they want and then it would be delivered. Together the operator and the customer could determine which kind of system is wanted, and I see that all of the information and actions relating the Ice wall would go through the operator. And the operator would control the whole case by seeing that all the parts relating the service (the Ice wall) would be in the right place in the right time and ensure that there would not be situation in which for example the technical partner has not delivered the needed software. Because in that case, there would not be anything to show on the wall. Juha Rämälä

And the operator would not need anything else than itself and the equipment package (equipment that is needed for the Ice wall) and deliver them in a van to the event place. And then, if there is needed some specific content creation, the operator would have already needed business relations with those actors. But there in the centre would lie that operator who would keep it all together and in balance. Therefore, the case would not hardly differ if the customer would like to have a bar made of ice or interactive ice wall made of ice. Panu Åkerman

However, need for the external or internal information platforms that allow different actors (such as ice sculptor, ice provider, technical provider, event organizer, content creators and end-customer) to directly interact and share their experiences, was not seen required in the case of the Ice wall. According to empirical data, Rämälä brought out that the need for information platforms would be reasonable, if the business is considerable enough, but now he could not imagine that the business of the Ice wall would become that significant. The information flow was rather seen managed directly by an operator who would by himself or herself organize all the connections.

I do not see that this business (of the Ice wall) will not became so remarkable that there would be needed some kind of online service in which the customer could make an order and order some kind of interactive ice system with this and this kind of features. And then on the back would start to happen magical things and then there in the event place would be shown the ice sculptor and the representative of the Evident Solutions and the Ice wall would be built in that way. That would not be reasonable way to do this business. Juha Rämälä

Hytönen was asked about the challenges related to utilization of the Ice wall in Valoa Festival, and he emphasized the lack of advertising. Åkerman also agrees that the coverage of the Ice wall would possibly have been better in the Valoa festival, if
there would have been more time to advertise it better. The better investments to advertising could have increased the end-customers attention for the Ice wall.

It (the Ice wall as an attraction in some event) should be marketed better. Now we had only a short mention of it in our webpage, but if all the preparation would have been ready in time, we could have marketed it much better. So I think, we were not able to utilize it in a full extent. Lasse Hytönen

This time it (the Ice wall in Valoa festival) was not that strong case, because of we did not have enough time to market it. Panu Åkerman

The empirical data shows that the mechanisms to integrate the resources and connect the different actors happen by using practices that are partly deliberate, such as agreements, and partly actions that based on routines and unconscious behavior.

6.4 Value capture and value co-creation

According to Saarijärvi et al (2013) for value co-creation to occur, the incentives for different actors have to be recognized. Companies should be able to capture corresponding value in relation to the value they create within a value network (Shafer et al 2005). The different incentives that motivate the actors of the Ice wall value network to take part for the co-creation of value came up from the empirical data.

The empirical data shows that captured value represents benefits both psychological and economic, which are presented in the Table 10. Observed psychological benefits were ‘new experiences’, ‘to get something to work with’, ‘differentiation’ and ‘to offer different and unforgettable content’, as economic benefits showed up ‘higher revenues’ and ‘better coverage on the market’.
Table 10. The psychological and economic benefits that the actors of value network capture from their investments through value co-creation in the Ice wall service.

<table>
<thead>
<tr>
<th>Captured value</th>
<th>Actor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychological benefits</td>
<td></td>
</tr>
<tr>
<td>new experiences</td>
<td>End-customer</td>
</tr>
<tr>
<td>to get something nice to work with</td>
<td>Technical provider</td>
</tr>
<tr>
<td>differentiation from the competitors</td>
<td>Operator, Ice producer / ice sculptor, Event organizer</td>
</tr>
<tr>
<td>to offer different and unforgettable content in marketing</td>
<td>Event organizer</td>
</tr>
<tr>
<td>Economic benefits</td>
<td></td>
</tr>
<tr>
<td>higher revenues</td>
<td>Operator, Ice producer / ice sculptor, Event organizer, Technical provider, Other content creators</td>
</tr>
<tr>
<td>better coverage on the market</td>
<td>Operator, Ice producer / ice sculptor, Event organizer</td>
</tr>
</tbody>
</table>

From the empirical data came up that the end customers’ captured value from using the Ice wall determines other actors’ ability to benefit from their offered value propositions. From the end-customers’ perspective as a main purpose for the Ice wall was seen its ability to offer rewarding experiences and ability to share and shape experiences of the end-customers during and after the event.

It (the Ice wall) offered experiences and when I was asking around, people saw it interested because it is attractive. It (the Ice wall) fits well in this kind of event. Lasse Hytönen

According to the feedback that Valoa festival got, as a visual effect it (the Ice wall) was liked. And interesting and unforgettable in it was for example possibility to draw with remote access and in that way publish something self-made. And leave some messages. So, it was seen as it’s (the Ice wall) strength that a user could bring in something own to the event. Lasse Hytönen

Works made of ice are found interesting despite the age or gender. Almost every art made of ice and snow has been seen interesting. I think, because that kind of art is somehow sympathetic. And ice is in this time of year suitable
material to carve. And perhaps because the art work will eventually melt away.
Sami Kauhanen

Ramaswamy and Gouillart (2010) have stated that letting customers participate to
develop the services, increases other stakeholders (like employees and suppliers)
willingness to participate in value co-creation. In fact, they are allowed to generate
value for themselves too. Åkerman brought up the same attention after the Valoa
festival. According to Åkerman, some of the end-customers found the Ice wall
interesting, because by using it they were able to participate creating own contents to
Valoa festival event. By using the Ice wall the end-customer can be seen becoming
co-creators of value. End-customers’ interest for the Ice wall creates value also for
the other actors. When connecting different actors’ competences and knowhow for
creating experiences from which the end-customers are interested in, all the actors
create and capture value in these actions.

The experience creation for the customer (an event organizer) and end-customers
(customers of an event organizer) of the Ice wall can be seen as a leading idea behind
the service and an issue that ties different actors and their competences together. The
actors can not be seen participating in co-creation, if it will not create value for them.

The interviewees brought up similar benefits that the Ice wall can offer for the actor
that pays from the use of the service and utilizes it in own events. The event
organizer was seen as the actor who creates the literal cash flows for the other service
suppliers relating the Ice wall. That is why, the event organizer's ability, together
with the end-customer, to capture value can be seen as conclusive element for the
service. According to empirical material, value that the event organizer captures are
benefits such as Valoa festival’s better ability to differentiate from the other similar
events, utilize the Ice wall in marketing actions and to offer different and
unforgettable content for its customers. Rämälä and Kauhanen brought up also
similar issues and they agree that the Ice wall could be utilize in cityscape and events
as a marketing method as well.

Realized benefits from it (the Ice wall) were content, assistance in marketing
and that content was something else that traditional content. People are
interested this kind of experience creation and from new experiences in
general. These works (ice works) have strongly been shown in social media, Facebook and Instagram. And it has been our goal that people photograph it and send pictures forward. It is the way, how information spreads today. Lasse Hytönen

It is important for us and as far as I know other festivals in Tampere do not do anything like that. From our perspective it is useful that the Ice wall raises attention by being an unordinary display and in this way brings more people in. Lasse Hytönen

Differentiation is the key word. Differentiation, new event contents and new ways to market and sell. Ice wall provides a way to differentiate from other stands by presenting something new and interesting. And by developing and improving the Ice wall’s functionality it would be possible to provide more entertainment for the customers. Juha Rämälä

I was very excited about the Ice wall. I myself am an architect and in my professional aspect the ice wall would work well in cityscape and events as a marketing method. Sami Kauhanen

According to Sami Kauhanen the Ice wall offers a tool for the ice sculptor to differentiate from the other actors in market of ice carving and a possibility to earn higher revenues.

I have not curved ice on abroad, but my friends have been there, and on abroad the volume and orders could be larger. Therefore, I see that this (the Ice wall) could be something that would easily break through. Sami Kauhanen

I suppose that especially in the Middle Europe there would be market for it (the Ice wall). It would be a good way to differentiate and stay in mind (in market of works made of ice). From those kinds of works people would be ready to pay in Finland and abroad. Sami Kauhanen

For a technical supplier the Ice wall opens possibilities to go in a new field of business and get more business cases in which to utilize their expertise and earn more revenues.

In that case, they would buy software from us, and then we would get something nice to work with which means also a little bit of revenues too. Panu Åkerman
According to empirical data, value co-creation occurs when the end-customers of the Ice wall service see the service interesting and they are ready to use the service. That is why the customer can be always seen as a co-creator of value, because without customer’s interest other actors’ investments for value co-creation can be seen unsuccessful. If the end customers’ value capture becomes weaker, also the value co-creation will decline or might not be able to happen at all. That is why the service providers of the value network should be assured on their own ability to capture value and focus on end-customer’s satisfaction and value generating processes.

6.5 Strategy

Mansfield and Fourie (2004) clarify that strategy defines the relationship between the focal firm and its environment, resource deployment and the conduction of different operations, and ways to satisfy the customers and compete successfully. The business model on the other hand is used primarily for implementing the strategy (Mansfield & Fourie 2004) and describing how the elements of a business could form a working whole (Magretta 2002).

Rämälä presents that to be able to integrate the different parts of the Ice wall as one service and conduct it as a business, it needs one party that systematically manages and coordinates the service. Rämälä continues by saying that Evident Solutions would sell or rent the technology relating Ice wall’s interactive feature to an independent operator. As a most suitable operator Rämälä sees a professional ice sculptor. The ice sculptor would manage the service as a part of him or her ice sculpting work. The ice sculptor would also have the needed customer relationships and ability to picture dynamic markets of ice sculpting.

We would sell or offer it (the Ice wall) for the use of some third party such as an ice sculptor. The ice sculptor would be a good option for the operator, because the Ice wall could easily be connected to their previous work. Hence, the ice sculptor would offer this interactive Ice wall service as a part selection. Alternatively, of course, someone else than an ice sculptor could also work as an operator. Juha Rämälä
In addition, the ice sculptor Sami Kauhanen agrees Juha Rämälä by telling that he sees that ice sculptors are the actors who have the main responsibility to offer customers new ideas and innovations, and to develop the ice sculpting business.

I have not curved ice on abroad, but my friends have been there, and on abroad the volume and orders could be larger. So, I see that this (the Ice wall) could be something that would easily break through. Sami Kauhanen

I see that we ice sculptors are responsible for bringing this kind of innovations to the market and waking the awareness of customers. Sami Kauhanen

Following the empirical material of this research, the business relating to the Ice wall consists from the input of the several actors and from different resources and mechanisms. Mechanisms integrate the actors and the resources to work as a coherent whole. To be able to organize all these elements, Rämälä suggests that the planning should start from understanding how to satisfy the targeted customer and explaining which kinds of characteristics the elements should be consisted of to be able to co-create the service.

Probably the ice sculptor would be there in between the service (the Ice wall) and customers. In this case (the Ice wall) I mean a customers for example event operators, who would let the ice sculptor know which kind of system they want and then it would be delivered. Together the operator and the customer could determine which kind of system is wanted, and I see that all of the information and actions relating the Ice wall would go through the operator. And the operator would control the whole case by seeing that all the parts relating the service (the Ice wall) would be in the right place in the right time and ensure that there would not be situation in which for example the technical partner has not delivered the needed software. Because in that case, there would not be anything to show on the wall. Juha Rämälä

According to empirical material, if any changes will happen in the factors (in actors, resources, mechanisms, value capture and co-creation) relating to the Ice wall, it will have consequences to all other actors, resource integration and mechanisms. That is why, in strategy creation, it is essential to take into consideration the changes that happen in the business environment and develop the strategy in consequence the changes will happen.
It (the Ice wall) would need more research and development in different sectors and that is why there is a need for different actors from different fields. And the research and development might still bring changes for the final product (the Ice wall) and features for it. For the development work we need to bring in ice sculptors for developing the ice as a material, and then professionals of mechanics and software and so on. So it is like, everything has an effect to everything. And if Valoa festival will be arranged again next year, we (Evident Soultions Oy) will probably organize something similar again. But what it is exactly? It might be something else, something they (Valoa festival) want to be presented. Panu Åkerman

According the empirical data, a value co-creation based business model can be seen tying the strategy through the key actors, resources and mechanisms. In addition, strategy is seen influenced by the changes of the business environment; because if some of the business elements change, it also affects the strategy, and other way around. That is why strategy can also been seen developed through time and it is liable for the dynamic changes. The different actors within the value network have their roles and if one of the actors loses its ability to function, it has an effect to other actors and that way to the entire value network.

6.6 Empirical results

According to the empirical material, this research also supports the views of the service-dominant logic (S-D logic) by agreeing that the end-customer is always seen as a value co-creator. Without an interest of the end-customer, there is no need to offer service, because the investments that other actors have made creating the service would be lost. For this reason, according to empirical findings the end-customer can be seen as a co-creator of value, because the value co-creation is been always occurred through the interest and participation of the end-customer.

According to the service-dominant logic (S-D logic) all social and economic actors can be seen as resource integrators and exchange between different actors improves their own state of being (Vargo & Lusch 2008a). Value co-creation is seen as an interactive process, in which all involved actors including customers (Grönroos 2008, Payne et al 2008, Vargo & Lusch 2008a, Macdonald et al 2011) are considered in an inherently relational context (Vargo & Lusch 2008a). The empirical findings of this study support the view that the context of value co-creation is inherently
relational and it consists of value network that includes actors. According to the empirical material, the actors can be seen as resource integrators, because they represent resources that will be integrated for co-creating the Ice wall service.

According to empirical material, business that consists of cooperation of several actors of value network needs mechanisms that support actors’ resource integration and ability to offer value proposition to end-customers. The mechanisms represent practices that are partly deliberate, such as agreements, and partly based on routines and unconscious behavior. In interviews of empirical research Rämälä and Åkerman have mentioned that partnership network and customer management, information flow coordination, sales, advertising, distribution and construction and disassembly of the Ice wall are the mechanisms that are needed to manage and coordinate the Ice wall service. According to Rämälä, the most suitable operator would be for example an ice sculptor, because he/she have already suitable knowhow and sufficient connections.

In the Figure 5. is presented the empirical findings of this research. According to the empirical material, the Ice wall service binds together the elements such as actors, resources and mechanisms, which why they are also seen as the core elements of the value co-creation based business model. To be able to organize all these elements the business strategy planning should start from understanding how to satisfy the targeted customer segments and explaining which kinds of characteristics the elements should be consisted of to be able to co-create the service. According to empirical material, different actors represent different kinds of resources and actors that have suitable resources from the perspective of the customer valuable service have prerequisites to take part in the process of value co-creation. According to that, the planning has to start by understanding the business outside-in. That is why the core logic of the Ice wall service is been seen affect to the elements of the business model in the perimeter of the model. From this reason, the business strategy planning of the Ice wall service should start by understanding the customer’s value generating processes, by clearing which kind of actors, resources and mechanisms are needed in co-creation and how a focal firm can take a part in this process.
Strategy is seen influenced by the changes of the business environment; because if some of the business elements change, it also affects the strategy, and other way around. That is why strategy can also been seen developed through time and it is liable for the dynamic changes. The different actors within the value network have their roles and if one of the actors loses its ability to function, it has an effect to other actors and that way to the entire value network.

![Figure 5. Value co-creation based business model](image)

In the Figure 5. is illustrated all the interconnected core elements of the value co-creation based business model. According to empirical findings, the core elements from which the business model consists of are actors (A1-An), resources (RESOURCES) and mechanisms (MECHANISMS) which are presented in the center of the model. The actors’ ability to co-create (VCC) and capture value (VC) affects to their willingness to be a part of the value network. According to empirical findings, when supporting the co-creation of value the impact of the business strategy (STRATEGY) affects from the outside-in. Notable here is that, when traditionally
the business strategy planning has been seen as an inside-out process (Payne at al 2008), now in the value co-creation based business model the perspective is outside-in. This helps to understand, which processes of the service are different kinds of actors, resources and mechanisms needed.
7 CONCLUSIONS

In this chapter is described the theoretical contribution of this study by combining the answers to the sub-research questions and answering to the main research question. In addition, the managerial implications are described and evaluation of this study presented. In the end, limitations of this study and suggestions for the future research will be discussed.

7.1 Theoretical contribution

The main contribution of this study is to take a part in the business model discussion in which the effect of the value co-creation is taken into consideration. Previous researches of business model and value co-creation are combined in this study to find out the elements from which the business model and value co-creation can be seen formed of. The way the value co-creation can affect to the elements of the business model is researched in empirical study that has been conducted as a single case study. The results of this study can be seen taken a part of the general academic discussion of the business models.

The main research question of this study is what kinds of elements construct the value co-creation based business model. To be able to answer for this research question it was essential to first find out the answer to sub-research questions: what kinds of elements the business model is made of, from which parts the synthesis of value co-creation is consisted of and how the value co-creation with the key participants affects to the elements of business model. The answers to the research questions will be given in the above presented order.

What kinds of elements the business model is made of?

The term ‘business model’ has been widely used in the business world, although the academic research has not systematically addressed the extensively accepted definition for it (Chesbrough & Rosenbloom 2002, Marshall et al 2002, Schweizer 2005, Teece 2010, Zott et al 2010, Coombes & Nicholson 2013). In this research it was decided to follow the views of Morris et al (2005) and Shafer et al (2005).
According to the researches of Morris et al (2005) and Shafer et al (2005) a business model forms through the elements that relate to value creation and value capturing within value network, to value creating activities and to needed resources. In addition, because the content of the business model elements is based upon central ideas that are defined in business strategy and company’s underlying core logic (Morris et al 2005, Shafer et al 2005), strategy was included as an effective core element to business model formation in this research. The coherence between the core elements is also essential to show up, because a coherent set of choices offer the potential for superior performance for the company. Therefore, the business model can be seen created by the interactions between and within the different core elements. (Demil & Lecocq 2010.) Interactions are presented as ongoing dynamics structure in perimeter of business model formation.

In the Figure 2. is presented how the formation of business model and the core elements of it are understood in this study. According to Figure 2., a business model consists of elements such as value creation and value capturing within value network, value creating activities and resources. In addition, business strategy affects in the center of the business model representing underlying core logic of a company. Interactions between and within the different core components is presented as ongoing dynamics structure in perimeter of the business model.

From which parts the synthesis of value co-creation is consisted of?

In this research, the concept of value creation is seen following the view of service dominant logic (Vargo & Lusch 2008a, 2013). According to Vargo and Lusch (2008a, 2013) value co-creation makes value creation inherently relational, and value co-creation happens through resource integration and service-for-service exchange observes more complex network of interconnected actors than traditional view of dyadic exchange relationship between a company and a customer. Besides the resource linkages actors are seen connected through common governance mechanisms that are generated by the actors in the network (Vargo & Lusch 2013).

Value co-creation affects the way of companies think about their business strategy and operations (Ramaswamy & Gouillart 2010). According to service dominant logic
(the S-D logic) strategical business decisions starts by understanding the customer’s value generating processes and choosing which of these processes the service supplier wishes to be a part of (Payne et al. 2008). Following the view of Saarijärvi et al (2013) instead of only stating that actors co-create value, but enhance the understanding of value co-creation, it has seen essential to clarify for whom value is co-created (for service provider and customer) and what resources can be seen needed in joint creation and through what kinds of mechanisms is value co-created. In this research, an integration of value networks’ actors, resources and mechanisms, and an effect of strategy for the business is understood to create a synthesis of value co-creation. The synthesis of the value co-creation is presented in the Figure 3.

In addition, empirical findings support the views of service-dominant logic (S-D logic) by agreeing that the context of value co-creation is relational and it consists of value network that includes different kinds of actors. The actors can be seen as value integrators that represent resources and capabilities that are needed for co-creating the service. The empirical data also supports the view of Saarijärvi et al (2013) by showing that integration of the different actors and resources happens through the different kinds of mechanisms. To connect the actors and resources to work together as one service mechanisms were seen as supporting activities. The empirical research also supports the views of the service-dominant logic (S-D logic) by agreeing that the end-customer is always seen as a value co-creator. The empirical data implies that value co-creation occurs always through the interest and participation of the end-customer. Without an interest of the end-customer, there is no need for created service and other actors’ investments relating it would be lost.

*How the value co-creation with the key participants affects to the elements of the business model?*

According to empirical material, business that consists of cooperation of several actors of value network needs mechanisms that support actors’ resource integration and ability to offer value proposition to end-customers.

Strategy is seen influenced by the changes of the business environment; because if some of the business elements change, it also affects the strategy, and other way
around. That is why strategy can also been seen developed through time and it is liable for the dynamic changes. The different actors within the value network have their roles and if one of the actors loses its ability to function, it has an effect to other actors and that way to the entire value network. According to that, the planning has to start by understanding the business outside-in. This finding also supports the view of Payne et al (2008) who have stated that planning for co-creation starts by understanding the customer’s value generating processes and selecting which of these processes service provider wishes to support. That is why, the core logic of the Ice wall service is seen affecting the elements of the business model in the perimeter of the model. Traditionally in business model literature (e.g. Morris et al 2005, Shafer et al 2005, Payne et al 2008) business strategy is been seen as company’s underlying core logic that defines in which kind of business category a firm should be operating in, when view for the strategy planning is clearly inside-out. However, to support the value co-creation, the strategy planning starts by understanding the customer’s value generating processes, by clearing which kind of actors, resources and mechanisms are needed in co-creation process and how a focal firm can take a part in this process. In addition, changes of the business environment could affect the strategy, because if some of the business elements change, it has also an effect on the strategy, and other way around.

*What kinds of elements construct the value co-creation based business model?*

According to the results of this research the core elements from which the business model consists of are *actors, resources* and *mechanisms* which are presented in the center of the model. The actor’s ability to *co-create value* for the end customer and actor’s ability to *capture value* from these investments affects to its willingness to be a part of the *value network of the service.*

According to results of the third sub-research question, when supporting the co-creation of value the impact of the *business strategy* affects from the outside-in. Notable here is that, when traditionally the business strategy planning has been seen as an inside-out process (Payne et al 2008), in the value co-creation based business model the perspective is outside-in. This helps to understand, which processes of the service are different kinds of actors, resources and mechanisms needed. All the
interconnected core elements of the value co-creation based business model are illustrated in the Figure 5.

7.2 Managerial implications

This paragraph concerns the managerial implications that relate an effect of value co-creation that managers should take into consideration when they make the strategic decisions relating to business.

Business manager is recommended to notice that value is not created by exchange, but in jointly through co-creation of value, in which a focal company markets with customers as a part of other interactive relational value network, not only in dyadic relationship. According to empirical findings of this study, changes that happen in the value network have impacts to all actors and their ability to function. Because of this, business managers should expand their aspect from internal operations to action of entire value network. That helps to anticipate and adapt internal processes and resources.

Value co-creation based business model provides an efficient way for managers to analyze and communicate their strategic choices to each other. It is easier to manage a complex ensemble of different departments when all the decision-makers understand clearly how the business is consisted of and which kinds of elements have an impact to possibilities to succeed. In addition, especially for business that is still in its early stage, it can be seen essential to define the elements of business model from the perspective of value co-creation. It helps to understand an effect of entire value network and avoids to get in stuck in the dyadic relationship of a focal firm and a customer.

According to this study, in order to assist the process of value co-creation companies have to highlight the customer’s point of view and improve the front-end process of identifying customer’s value generating processes. Value is co-created with customers and, therefore, improving an understanding of customer’s everyday practices is the starting-point for developing services that supports the customer’s well-being. The focal firm can develop its value propositions by creating interactive
contacts with customers and in this way add the knowledge from the customer’s processes. A focal firm can become a co-creator of value only, if it systematically is involved with customer’s value generating process.

### 7.3 Evaluation of this study

The aim of this paragraph is to evaluate this research by presenting aspects affecting to the reliability of the research. This research was chosen to conduct as a qualitative research. The qualitative method was chosen, because it was seen suitable for gaining a deep understanding on researched phenomenon by examining real life experiences of the people relating to the phenomenon. In order to success in the goal of this research, it was seen that the required results were not in the statistical outcomes that would be seen conventional for the quantitative research. (Ghauri & Gronhaung 2005:110, Koskinen et al 2005:15-16.) It was chosen to evaluate this research by utilizing the concepts of reliability and validity, even though these concepts’ suitability in the evaluation of qualitative research has been criticized (Eskola & Suoranta 1998:166, Koskinen et al 2005:255, Tuomi & Sarajärvi 2009:136). However, because of the other generally accepted options for evaluation of the qualitative researches have not been presented (Koskinen et al 2005:254-257), the concepts of the reliability and validity will be used.

According to Koskinen et al (2005:254-257) reliability represents dependencies of the researched phenomenon in a way that reader is able to evaluate used methods and results. Reliability can also be understood as scientific repeatability (Tuomi & Sarajärvi 2009: 136). According to criteria of reliability, the dependency and the scientific repeatability have been ensured to meet objectives by accurate references, methods, conclusions and results for the research questions. Hence, the conclusions and results are afterwards repeatable.

The validity assesses the extent in which arguments and results are accurate. Validity is divided to be internal and external validity. Internal validity determinates the internal logic of the research and external validity relates to interpretation of the results. (Koskinen et al 2005:254, Hirsjärvi et al. 2006: 216–218.) The internal validity of this research has been ensured to meet the objectives by utilizing versatile
academic literature and creating the theoretical framework, framework of interviews and questionnaire and structure of the empirical analysis based on it. The external validity of this research could have been decreased, because the research has been conducted as a single case study research, and that is why the empirical results based on the one certain business case.

According to Alasuutari (1999:231) qualitative methods usually produce deep, but poorly generalized information. Besides the external validity, the generalization of this study can be seen reduced, because of low number of cases. However, four people were interviewed and the questionnaire with 64 respondents was taken, so the views presented in the empirical part of this research do not rely on only single view. In addition, the researcher’s observations supported the other empirical findings from interviews and questionnaire. By taking into consideration, the time and resources available for this study (Ghauri & Gronhaug 2005: 118-119), the chosen business case was considered suitable and meets the goals of this research. In addition, Koskinen et al (2005:253) have emphasized that the goal of academic research is to produce new information and not only the absolute correctness. According to that despite the limitations that evaluation of this study shows up, this research brings out important aspects to the academic and managerial discussion relating to researched phenomena.

7.4 Limitation of the study and suggestion for the future research

In this paragraph the limitations of this study will be presented with some suggestions for the future research relating to the researched phenomenon of this study.

In academic literature, there is much research available relating the concepts of business model (Brettel et al 2012) and value co-creation (e.g. Vargo & Lusch 2004, Grönroos 2008) and the researcher of this study did not find any accurate definitions for the concepts. The literature research of this study was limited by taking into consideration the time available for this study (Ghauri & Gronhaug 2005: 118-119), researcher has to do limitations with the literature research. The outlines relating the concepts of business model and value co-creation were validate according to
academic literature that the researcher found during the research process. As a suggestion for future research would be to study the phenomenon of how value co-creation affects to the business model from the different views of value co-creation, for example from the perspective of service logic that Grönroos (2008) presents.

This research was mainly focused on example of business in the business-to-consumer market. It can be seen limited in terms of degree that industry and relationship specific interfaces can be defined, but according to Koskinen at al (2005:154) the number of researched cases is typically small and usually is focused only to one chosen case. The business case of the Ice wall concerns is still in its starting point. From this reason, all the examples that the interviewees brought out was based mainly on to one service experiment at Valoa festival in Tampere. Although the findings of this study took into consideration the dynamic nature of the business model, the results of this research can still be chiefly supporting the businesses that are still in its early stage than some already better established. Further research is therefore required to research this value co-creation based business model in other market and already established industries. To achieve a more comprehensive view to value co-creation based business model, future research should study the business situations of traditional manufacturing industries, which supply service for business-to-business market and business cases, which supply service for business-to-customer market.

In this study the set was limited to one value network, and the actors and actions of it. The research does not take into consideration the value creation in the service systems (e.g. Vargo et al 2008, Shi & Manning 2009) that encompasses also value nets of competitors and complements (Shi & Manning 2009) and other service systems that has an impact on the business environment such as the government (Vargo et al 2008). As a suggestion for future research would be to study impacts of the service systems to value co-creation based business model.
8 REFERENCES


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Appendix 1a

Themes for the semi-structured interviews

Nimi?

Kuinka kauan toiminut alalla?

Mitä Ice wall voisi mahdollistaa toimialallasi?

Millaiset olivat odotukset Ice wallin suhteen Valoa festareilla ja miten nämä odotukset toteutuivat?

Ice wallin hyödyt ja haasteet?

Millaista palautetta Ice wallin käytöstä Valoalla saatiin?

Mitä osaamista Ice wallin pystyttämiseen tarvitaan?

- Millaisia resursseja ja osaamista?

Mitä tulee ottaa huomioon kun Ice wall pystytetään uudelleen?

Mihin tarkoituksena ja missä muualla Ice wallia voitaisiin hyödyntää?

Mitä Ice wall tarjoaa

- toimialasi toimijoille?
- muille?
  - Välillisä ja välittömiä hyötyjä?

Mitä Ice wall tarjoaa sen loppukäyttäjälle?

- Mitä osaamista Ice wallin käyttäminen edellyttää?
Appendix 1b

Internet-questionnaire

Q1: Sukupuoli / Gender
   - male/female

Q2: Ikä / Age
   - Under18/18-24/25-29/30-39/40-49/50-59/over 60

Q3: Ammatti, koulutus tai opiskeluala / Occupation, Education or field of studies

Q4: Käytätkö sosiaalista mediaa / Do you use social media
   - Not at all/Less often than once a week/About once a week/Many times a week/About once a day/Many times a day

Q7: Jos käytät sosiaalista mediaa, mitä sovelluksia? If you use social media, which applications?
   - Facebook/Twitter/LinkedIn/Google+/Pinterest/Flickr/Instagram/My Space

Q6: Oletko kuullut aiemmin ko. Jääseinästä? Have you heard about this Ice wall installation?
   - Yes/No

Q7: Oletko kokeillut ko. Jääseinää? Have you experimented the Icewall?
   - Yes/No

Q8: Oletko nänyt muita interaktiivisia valoinstallaatioita? Have you seen other interactive light installations?
   - Yes/No

Q9: Jos olet aikaisemmin nänyt interaktiivisia valoinstallaatioita, kuvaile missä ja millaisia? If you have earlier seen interactive light installations describe shortly where and what kind?
Q10: Kuvaile omini sanoin, millaisia mielikuvia jääseinäinstallaatio kuvauksen perusteella sinussa herättää? Describe what kind of ideas and feelings the Icewall installation awakes in you?

Q11: Arvioi Jääseinän seuraavien väittämien perusteella. Mielestäni Jääseinä on.. (1= ei lainkaan samaa mieltä, 4= ei samaa, eikä eri mieltä, 7= täysin samaa mieltä) Rate the Icewall according to following statements. I think Icewall is.. (1= completely disagree, 4= neutral, 7= completely agree)

- Impressive/Interesting/Entertaining/

Q12: Kuvaile, millaisia muistoja, kokemuksia tai tuntemuksia jää materiaalina sinussa herättää. Describe your memories, feelings, experiences or associations related to ice as a material.

Q13: Mihin muuhun materiaaliin kosketusnäytön ideaa voisi soveltaa? Miksi? What other materials would make an interesting touch screen display? Why?

Q14: Mihin itse sijoittaisit Jääseinän? Millaisessa ympäristössä Jääseinä olisi kiinnostava? Where would you place the Icewall? In what kind of environment would the Icewall be interesting?

Q15: Kuvaile millaisissa tapahtumissa, tilanteissa ja ympäristöissä voisit kuvitella käyttäväsi jääseinää? Describe in what kind of event / environment you could imagine yourself using the wall?

Q16: Arvioi jääseinän käyttöäsi seuraavien väittämien perusteella. (1 = täysin eri mieltä, 4 = ei eri eikä samaa mieltä, 7 = täysin samaa mieltä) Rate using the Icewall according to the following statements. (1 = Completely disagree, 4 = neutral, 7 = completely agree)

a) Haluaisin ehdottomasti kokeilla jääseinää / I would definitely like to experiment with the Icewall
b) Olisin valmis maksamaan jääseinän kokeilemisesta / I would be willing to pay for the using Icewall

Q17: Mitä asioita tai elementtejä jääseinässä pitäisi olla, että olisit valmis maksamaan sen käyttämisestä? Which elements in Icewall would increase your willingness to pay for using the service?

Q18: Haluaisitko jakaa käytökokemuksesi Jääseinän kanssa sosiaaliseen mediaan? Would you like to share your Icewall use experience in social media?

- Yes/No
Q19: Haluaisitko käyttää jääseinää viestimiseen toisessa paikassa olevan henkilön tai henkilöiden kanssa esimerkiksi piirtämällä tai videon avulla? Would you like to use Icewall for communication with a person or persons in other location for example by drawing or video?

- Yes/No

Q20: Jos ystäväsi jakaisi jääseinäkokemuksen sosiaalisessa mediassa, herättäisikö se kiinnostuksen kokeilla seinää itse? If your friend would share his/her experience of using Icewall in social media, would that awake an interest in using the wall?

- Yes/No

Q21: Perustele, miksi! Explain, why!

Q22: Miten kehitäisit jääseinän ideaa? Mikä tekisi jääseinästä itseäsi kiinnostavan? How would you develop the idea of the Icewall? What would make the Icewall more interesting to you?

Q23: Mitä haluaisit pystyä tekemään jääseinällä? What would you like to be able to do with the Icewall?

Q24: Jos haluat osallistua arvontaan, joka järjestetään kyselyyn vastaajien kesken, jätä tähän sähköpostiosoitteesi. Tietoa käytetään ainoastaan arvontaan. Palkintoina on elokuvalippuja sekä 20 euron lahjakortti Amazon-verkkokauppaan. If you wish to participate in the lottery between survey participants, please provide your email address. The information is used only for this purpose. The lottery prizes are movie tickets and an Amazon gift voucher (20 eur).

Q25: Halutessasi voit antaa kommentteja tai palautetta kyselyystä. Comments or feedback of the survey
Appendix 1c

Questionnaire for the end users of the Ice wall at the Valoa festival

Q1: Sukupuoli
   - Nainen/mies

Q2: Ikä

Q3: Ammatti/opiskelualaa

Q4: Kokeiliko jääseinää
   - Ykin/1 kaverin kanssa/2-3 kaverin kanssa/useamman kaverin kanssa/ tuntemattomien kanssa

Q5: Kuvaile lyhyesti mitä teit jääseinällä?

Q6: Jaettiinko kuvaa jääseinästä, kun käytit sitä?

Q8: Vaikuttiko jakaminen siihen, miltä jääseinän käyttäminen tuntui?
   - Ei/Kyllä, teki siitä kiinnostavampaa/Kyllä, teki siitä epämukavampaa

Q9: Arvioi Jääseinää seuraavien väittämien perusteella (1= Kyllä, 2=Ei, 3=En osaa sanoa). Mielestäni Jääseinä on..
   - Vaikuttava/Viihdyttävä/Kiinnostava

Q10: Mikä jääseinässä on kiinnostavaa, mikä ei?

Q11: Mikä tekisi jääseinästä entistä kiinnostavammän? Millaista sisältöä haluaisit seinässä olevan?

Q12: Tiesitkö etukäteen, että tapahtumassa on jääseinä?
   - Kyllä/ei
Q13: Jos tiesit etukäteen, millaisia odotuksia sinulla oli jääseinän suhteen, ja toteutuivatko ne?

Q14: Tekikö jää tästä erityisen kiinnostavan, vai käytäsiditkö tätä myös tavallisella isolla kosketusnäytöllä?

Q15: Millaisessa ympäristössä, tapahtumassa ja tilanteissa haluaisit käyttää jääseinää?

Q16: Otitko kuvia ja tai videokuvaa jääseinästä?

  - Kyllä, kuvia/kyllä, videota/en ottanut

Q17: Jos otit, miksi otit kuvan jääseinästä?

  - Omaksi muistoksi/jakaakseni kuvan sosiaalisessa mediassa/näyttääkseni kuvaa ystävälle/muu syy, mikä?

Q18: Jos otit kuvan/vedon jääseinästä, mitä kuvassa näkyi?

  - Jääseinäsarakeja ja tekniikka/jääseinä ja itse tekemäni sisältö/jääseinä ja minä itse tai ystäväni