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**INTEGRATING USE OF CUSTOMER INFORMATION THROUGHOUT
MULTIPLE SALES CHANNELS TO CREATE CUSTOMER COMPETENCE**

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ABSTRACT

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Customer knowledge management (CKM) practices enable organizations to create customer competence with systematic use of customer information that is integrated throughout the organization. Nonetheless, organizations are not able to fully exploit the vast amount of data available. Previous research on use of customer information is limited especially in a multichannel environment. The aim of this study was to identify the main obstacles for utilizing customer information efficiently across multiple sales channels. The study was conducted as a single case study in order to gain deeper understanding of the research problem.

The empirical findings indicate that lack of CKM practices and a common goal are major challenges obstructing effective utilization of customer information. Furthermore, decentralized organizational structure and insufficient analytical skills create obstacles for information sharing and capabilities to process information and create new knowledge. The implications of the study suggest that in order to create customer competence organizations should shift their focus from technology to the organizational factors affecting use of information and implement CKM practices throughout the organization.

TIIVISTELMÄ

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Asiakastiedon johtamisen käytänteiden avulla organisaatio voi hyödyntää systemaattisesti asiakastietoa koko organisaatiossa sekä luoda asiakasosaamista. Monet yritykset kuitenkin epäonnistuvat hyödyntämään niiden käytettävissä olevaa laajaa data määrää. Aikaisempi tutkimus asiakastiedon hyödyntämisestä erityisesti monikanavaisessa ympäristössä on vähäistä. Tämän tutkimuksen tarkoituksena oli selvittää isoimmat esteet asiakastiedon tehokkaalle hyödyntämiselle monikanavaisessa myyntiorganisaatiossa. Tutkimus toteutettiin tapaus tutkimuksena, jotta voitiin saavuttaa riittävän syvä ymmärrys tutkimusongelmasta.

Tutkimustulosten mukaan puuttuvat asiakastiedon johtamisen käytänteet ja yhteinen päämäärä asiakastiedon hyödyntämiselle ovat esteitä asiakastiedon tehokkaalle hyödyntämiselle eikä asiakasosaamista pystytä luomaan. Lisäksi hajautettu organisaatorakenne sekä riittämätön analytiikkaosaaminen asettaa haasteita tiedon jakamiselle ja valmiuksille käsitellä informaatioita ja luoda uutta tietoa. Jotta organisaatio pystyisi luomaan asiakasosaamisesta kilpailuedun, tutkimuksen tuloksien perusteella sen tulisi keskittyä teknologian sijaan organisaatiotekijöihin, jotka vaikuttavat tiedon hyödyntämiseen ja ottaa käyttöön tietojohtamisen käytänteet koko organisaatiossa.

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Time to time, combing work and study has been challenging but definitely worth it. One of the highlights during these years were my exchange studies in Oslo. It was a great opportunity and an amazing experience. It gave new ideas and another perspective on studies and life. I want to thank my classmates, with whom we have done many assignments and studied many hours together. One of the best parts of these years is the great friends that stay after graduation.

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1 INTRODUCTION

Digitalization and customer-centricity have become the much-discussed topics in retailing. Both are often viewed as technology questions but as Kari Neilimo (2014) states in his blog, they are in greater extent questions of strategy and action. Future leaders must excel in finding causalities in the huge amount of data available and give them a new meaning. At the same time the change in consumer behavior caused by technology development is forcing companies to offer services and products in the way people want them and on devices they use. This makes collecting and utilizing customer data more complex. Yet it is ever more critical for companies to provide good enough customer experience and to take the best out of the channels they operate in.

Increased competitiveness, technological innovation and globalization characterize the current knowledge-based society and economy. Business is going through a profound structural change from physical to digital. Price and product information availability via the internet has intensified competition making it more difficult to create a competitive advantage. Technology has removed geographical barriers and customer ignorance to which many retailers have traditionally relied on. (Brynjolfsson, Hu & Rahman 2013.) Investing in customer experience is one way to differentiate. It requires customer understanding and active utilization of customer information in both strategic and operational levels. It can hence be said that future success lies in the ability to lead through information, and more specifically through customer information. This study aims to identify key issues hindering utilization of customer information in an organization operating in a multichannel environment. The study was conducted as a qualitative case study and the main data collection method was interviews in the chosen case organization.

All the time faster technology development has improved ability to collect data about consumers remarkably. Companies can collect vast amounts of customer

level data to analyze purchases, marketing activities and customer attitudes creating major opportunities for them (Verhoef, Venkatesan, McAlister, Malthouse, Krafft & Ganesan 2010). Companies have understood that by using this data they can serve their customers better. However, many still do not or cannot collect the data in customer level, possibly due to costs related to that. Yet, even if the data is available, the capability of companies to use it has not improved to the same extent especially in a multichannel environment. There are challenges in collecting the right data, recognizing the truly important issues from the data, or initiating the correct actions based on the data (Verhoef et al 2010). As Brynjolfsson et al (2013) say the same; the data is not the limitation anymore but rather the ability to analyze it. According to Stones, Hobbs & Khaleeli (2002) companies with long history and many legacy systems in particular tackle with utilizing customer information. Information about a customer can be spread in various information systems causing it to be either difficult or impossible to gain single view of a customer. This leads to inefficient processes and eventually to poor customer experience as companies fall back to a “one-size-fits-all” mass marketing principle. (Bose & Sugumaran 2003.)

Although not a new phenomenon, multichannel retailing strategy has become a critical issue for companies in recent years. Most of the companies already encounter their customer in multiple channels, most typically in a store, the internet, phone services and in a variety of social media channels. Long were companies operating multiple channels very independently, even as subsidiaries. (Zhang, Farris, Irvin, Kuswaha, Steenburgh & Weitz 2010.) However, because of changes in customer behavior, channels are now becoming more integrated. How customers behave in different channels of different companies varies, although the trend is clear. Most of the customers use several channels sequentially and simultaneously for a purchase or service.

It is important that companies understand how their customers utilize multiple channels available to them (Dholakia, Kahn, Reeves, Rindfleisch, Stewart & Taylor 2010; Stone et al 2002). Customers move between these channels uncontrolled and companies need to reframe their strategy and the customer experience they

offer in different channels in order to stay in the competition. Yet companies have been struggling with this trend and finding ways to effectively manage proliferating channels (Neslin, Grewal, Leghorn, Shankar, Teerling, Thomas & Verhoef 2006). Operating in multichannel environment brings another level of complexity to data collection and analysis combined with the technological development. Firstly, the volume of data has increased remarkably and will continue to increase. Instead of gigabytes companies work with several petabytes of data. Secondly, velocity increases. New data is created in accelerating speed making nearly real-time analysis and reaction possible. Thirdly, data has much more variety than before. It is richer in context including information from a variety of sources but also in type. Data can include transactions, location information, images, social networks etc. Thus storing and processing all the data brings new requirements. (McAfee & Brynjolfsson 2012.)

Research around customer information relates closely to theories of customer relationship management (CRM) and less discussed combination of CRM and knowledge management, customer knowledge management (CKM). Research concerning CRM started as technology exploded collection of customer data creating a need for new ways of analyzing and exploiting it (Saarijärvi, Karjaluoto & Kuusela 2013). IT solutions and their implementation have gained lot of attention but CRM is more than an IT system holding the customer data. According to Verhoef et al (2010) the term includes also the practice of analyzing, utilizing databases and communication technologies in order to maximize the customer lifetime value. Bose & Sugumaran (2003) present wider definition of CRM and regard it as a concept of managing customer knowledge in order to understand and serve them better. Hence, CRM is strongly process and activity-oriented. CRM activities usually target for segmentation, up-sales, cross-selling and customized marketing communication. Consequently this keeps organization's focus on products and selling products. (Saarijärvi et al 2013.)

According to Saarijärvi et al (2013) in recent years interest in CRM has moved towards serving customers and creating value. Yet the perspective on customer information utilization remains narrow and centered around selling more products.

CKM combines CRM and knowledge management in order to maximize both operational and strategic efficiency. While CRM brings operational efficiency through relationship management processes, such as campaign management, offer management or complaint management, knowledge management adds practices of generating, disseminating and utilizing customer knowledge (Rollins & Halinen 2005). As Shieh (2011, 791) puts it: “CKM uses the theory and practices of knowledge management for customer relationship management, and attempts to achieve the highest level of effectiveness possible by obtaining, developing, and maintaining knowledge of, and experiences with, their customers.” Therefore, CKM includes the processes of collecting, analyzing and utilizing customer information. Furthermore, it includes processes of creation, storing, distributing and applying knowledge.

Knowledge is considered to be a critical organizational resource which can bring competitive advantage that is hard to imitate (Alavi & Leidner 2001). Although it starts to be a common understanding that utilization of customer information is a necessity, organizations still struggle with creating a holistic way of doing this. Many companies report that they don't fully exploit the customer information they possess. Further, traditionally utilization has been done in silos, to benefit a single function such as sales or marketing, or a single channel.

Customer data consists of the observations and facts that are stored in CRM or BI databases (Salojärvi, Sainio & Tarkiainen 2010). Through interpretation and analysis, data is transferred into customer information (Campbell 2003) and through personal experience, skills and competencies, knowledge is created (Salojärvi et al 2010). Hence an organization has to be able to utilize the information, or in other words the analyzed and interpreted data, so that it can truly exploit investments in data collection and analytics.

Choo (1996, 329) asks a very relevant question: “How do organizations use information?” Use of information is a highly built-in part of an organization's functions and is often taken for granted with no one knowing the actual answer to the question. Choo (1996) claims that without knowing how the organization

creates, transforms or uses information, it is unable to efficiently manage information processes, information resources, or technology. Information that has been collected and analyzed is only potentially valuable unless it is used to improve decision-making, process execution or to meet customer needs (Popovic, Hackney, Coelho & Jaklic 2012). Utilization of customer information can be defined as an organization's capability to use existing customer information in order to enhance customer relationships, provide personalized services and products, and to maximize the customer value (Salojärvi et al 2010). In the strategic level customer information is utilized for decisions concerning future product portfolios and marketing strategies (Rowley 2002).

Obstacles for utilizing customer information in an organization can be viewed through issues affecting the use of information. According to Popovic et al (2012) appropriate information quality and a decision-making culture lead to use of information in business processes. Information quality includes both content and access quality. Thus quality information is correct, valid, integrated, in-time, and has fast and easy access for queries and analysis. Amongst others, Shah, Horne and Capellá (2012) and O'Reilly (1982) support the statement that information quality affects use of information. Both of them stress information access as a more important element. Additionally, an organization's attitude against use of information in decision-making may limit or encourage use of information. People tend to rely too much on intuition brought by their expertise, rather than data (McAfee & Brynjolfsson 2012). Consequently an organization's cultural aspects and processes have gained more attention. Popovic et al (2012) suggest that an analytical decision-making culture fosters the use of information. Salojärvi et al (2010) stress the importance of formal processes and Rowley (2002) argues for the promotion of significance of information for the business through various ways.

Surely the same aspects affect customer information utilization in multichannel environments but it may complicate issues as traditionally information collection has taken place separately in each channel, in addition to analysis and usage of that information. It is possible that organizational structures have not changed alongside other development and may therefore be lacking behind. Moreover,

organizational culture may not promote information sharing across different channels. Studies conducted so far indicate that data integration and effective use of customer information are a prerequisite for successful multichannel strategy. IT capabilities have been studied extensively concentrating on what kind of integrated CRM systems a multichannel company should have, and what the sufficient level of integration needed is. Purely from a CRM point of view existing knowledge on how to influence and predict customer loyalty and value based on data in CRM systems is good (Verhoef et al 2010). Instead there are only a few studies demonstrating the ability to use customer information in a multichannel environment.

1.1 Research questions

This study focuses on the obstacles of utilizing customer information in a multichannel organization. The goal is to identify the main reasons why customer information cannot be effectively shared and utilized across sales channels in order to convert it into actions and customer knowledge to improve business processes and maximize customer value in all channels.

In essence the study aims to answer the following research question:

What are the main obstacles for utilizing customer information across multiple sales channels?

The main research question is answered with the help of sub-research questions which aim to identify possible obstacles in customer information utilization.

Sub-research questions:

1. *What are the main issues affecting information utilization?*
2. *What are the main sources of customer information?*
3. *How is customer information shared between sales channels?*
4. *How is customer information utilized in channel management?*

The first sub-research question will be answered based on theory. Main organizational issues affecting information utilization are identified from the existing theories so that empirical results can be reflected against them. The answer for the second question is sought from the empirical data and it aims to identify what the main sources for customer information are, and the motivation for using these specified sources. Furthermore, the availability of customer information is additionally studied.

The goal for the third question is to trace information flows and practices for sharing customer information and multichannel cooperation. The answer is sought from the empirical data. The fourth question is answered based on empirical data and aims to describe how customer information affects channel management or how data-driven the management activities are. Research questions are described in the Figure 1.

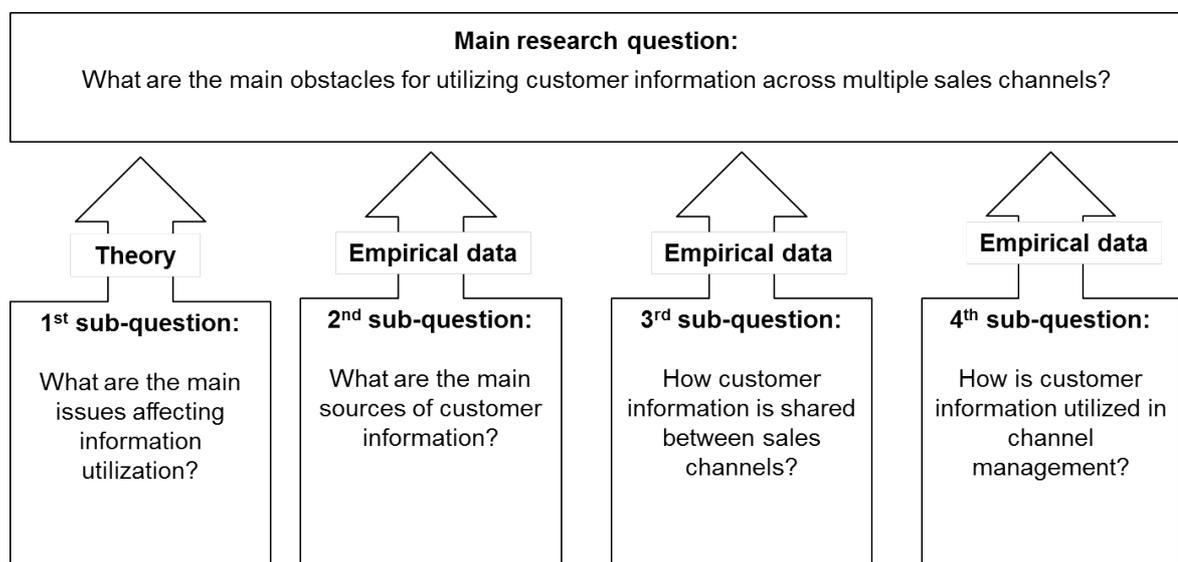


Figure 1: Research questions

1.2 Key concepts

Key concepts in this study include the following:

Customer information

Customer information is data that has been interpreted and analyzed giving it a specific meaning and placing it into context (Glazer 1991; Campbell 2003). However, information can be presented in the form of text, graphics, or other symbolic forms (Alavi & Leidner 2001). Information can be utilized by employees to improve business processes and in decision-making in order to better serve customers and maximize customer value.

Utilization of customer information

Utilization of customer information is an organization's capability to utilize existing customer information in order to create customer knowledge and thereby enhance customer relationships and maximize customer value. Utilization of information is a process that is affected by multiple factors such as information quality, skills and the organization's cultural characteristics. Deficiencies in these may create an obstacle to utilize existing information.

Customer knowledge management

Customer knowledge management (CKM) can be seen as an extension of customer relationship management (CRM) combining it with knowledge management practices (Shieh 2011). CKM is about managing and exploiting customer knowledge (Rowley 2002; Shieh 2011). Furthermore, CKM can be defined as process of generating, disseminating and using customer knowledge within an organization and between an organization and its customers (Rollins & Halinen 2005). CKM aims at maximizing the benefits from the customer relationship (Shieh 2011).

Multichannel customer management

According to Neslin et al (2006) multichannel customer management includes the activities of design, deployment, coordination and evaluation of channels in which

customers and companies interact. This typically includes the goal of increasing customer value. Channels include, for example, the internet, store, social media, call centers, distributors and others alike.

1.3 Research design and exclusions

This research is a qualitative case study. The research method was chosen because the research problem was seen as complex and that the answers lie within people and processes. The objective of a case study is to learn from that particular case (Dubois & Gadde 2002). Case studies enable profound exploration of the dynamics that characterize a single case (Saarijärvi et al 2013). The main data collection method was interviews. In addition, relevant background information such as existing data sources, IT capabilities and organizational structures were identified. Qualitative research is suitable for studying business cases as it can gather information and understanding deep enough. Moreover, it can produce solutions to the problem at hand, which, instead of theoretical frameworks, is important in a business environment (Koskinen, Alasuutari & Peltonen 2005).

This study concentrates on the obstacles of utilizing customer information across multiple sales channels and issues affecting utilization. Utilization of customer information is viewed in the context of customer knowledge management. The focus is in the processes and practices for collecting, storing, sharing, and utilizing customer information. Technology solutions enabling these activities are excluded. CKM includes the relevant concept of customer knowledge, which has been defined to include knowledge about, for and from customers (e.g. Rowley 2002). In this study, the focus is on information about customers. The study is placed in the multichannel retailing environment, which refers to selling products or services through more than one channel (Levy & Weitz 2009, cited in Zhang et al 2010, 168). In order to narrow the scope, focus is on the utilization of customer information in channels through which goods or services can be purchased. This differs from multichannel marketing, which is a wider concept and comprises channels where communication with a customer takes place.

1.4 Structure of the study

This study follows the basic structure of research, as described in the Figure 2.

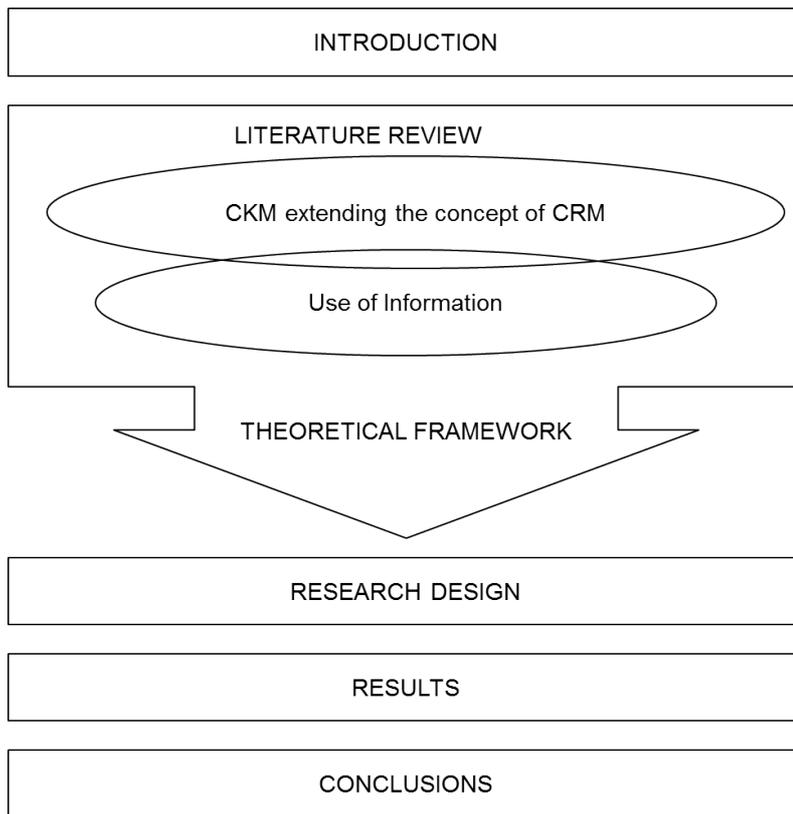


Figure 2: Structure of the study

Literature review in chapters two and three forms the theoretical background for the study. Chapter two discusses synergies of CRM and knowledge management and introduces the concept of customer knowledge management. The literature review is continued in the third chapter by looking at the factors influencing use of information. Based on chapters two and three, theoretical framework applied in this study is formed in chapter four.

Chapter five describes the research strategy, data collection and analysis methods used in the study. The results are presented in chapter six and finally chapter seven draws the study together and the research questions are answered.

2 CUSTOMER KNOWLEDGE MANAGEMENT EXTENDING THE CONCEPT OF CRM

Customer information is tightly coupled with customer relationship management (CRM) as it provides the means to collecting and storing customer data. Moreover CRM is used in customer relationship processes. Even though CRM has developed in literature into strategic perspective it lacks the holistic way of managing customer knowledge. By combining CRM with knowledge management practices customer information lying in CRM systems can be fully exploited in order to create superior customer experience and a competitive advantage. This combination is called customer knowledge management (CKM). In the following chapter firstly developments in CRM and CRM in multichannel environment are discussed. Knowledge management and creating a sustainable competitive advantage through knowledge is then briefly presented and finally synergies of CRM and knowledge management are drawn together under the concept of CKM.

2.1 CRM in multichannel environment

Customer relationship management (CRM) is more than an IT system holding customer data. It covers the practice of analyzing, utilizing databases and communication technologies (Verhoef et al 2010). Bose & Sugumaran (2003) place customers at the center of an organization and define CRM loosely as a concept of managing customer knowledge in order to understand and serve customers in a better way. Another approach from Payne and Frow (2004, 527) is that “CRM is a management approach that seeks to create, develop, and enhance relationships with carefully targeted customers to maximize customer value, corporate profitability, and thus, shareholder value”.

Development of the CRM framework can be divided into three waves. Interest in CRM started as technology multiplied the amount of customer data that could be collected. The focus was on technological solutions enabling the organization of this data. In the second wave process orientation and CRM came closely attached, especially to marketing and sales processes. CRM moved from

customer data management to the management of customer relationships. The third wave brought in topics such as customer lifetime value, CRM adoption and implementation, and also the interrelationship between CRM and knowledge management. CRM became a strategic approach in an organization. (Saarijärvi et al 2013.)

A literature review conducted by Awasthi and Sangle (2012) indicate a similar development in CRM research. According to Awasthi and Sangle by 2005 most of the studies were accomplished in an IT or IS domain, but the number of studies falling under marketing, service and support, and sales categories were growing, and by 2010 marketing became the main organizational function appearing in studies. Generally research has been emphasized in the relationship between CRM and different processes or customer lifetime stages. As can be seen, research on CRM is manifold but at the same time fragmented in perspectives and definitions (Payne & Frow 2004; Awasthi & Sangle 2012; Saarijärvi et al 2013). Although the customer is at the center of CRM, the starting point for customer data usage has remained focused on using data for the benefit of the company.

CRM can be considered at three levels: 1) implementation of a certain technology solution, 2) implementation of integrated customer-oriented technology solutions, and 3) as a holistic strategic approach in order to manage customer relationships to create shareholder value (Payne & Frow 2004). As the first two aspects are strongly technology oriented, the latter already considers use of customer information. CRM processes are often described as very specific activities such as campaign management or complaint management neglecting the strategic point of view (Gebert, Geib, Kolbe & Riempp 2002). For this research process-oriented approach by Payne and Frow (2005) is followed. They have developed a conceptual framework for CRM strategy that well describes the process orientation and the scope of strategic approach in an organization. Based on six criteria drawn from previous research, as well as a panel of experts, Payne and Frow selected five key generic CRM processes for their framework. These key processes, as illustrated in Figure 3, are: 1) strategy development process, 2)

value creation process, 3) multichannel integration process, 4) information management process, and 5) performance assessment process.

In the model of Payne and Frow (2005) strategy development was further divided into two parts, business strategy and customer strategy. The former defines what kind of customer process should be developed and the latter forms appropriate customer segmentation. Strategic context also defines what kind of data to focus on and what the goals are for its data-to-knowledge initiative (Davenport, Harris, De Long, Jacobson 2001). Value creation process puts strategy into actions that both deliver value to the customer and extract value to the organization in form of maximizing the lifetime value of desired customer segments. Payne and Frow (2005) raise the multichannel integration process as the most important CRM process. Based on business strategy, it creates value-added activities with customers in chosen channels. Furthermore, the information management process lays the foundation by providing means to collect and share relevant customer information. Finally the performance assessment process gives feedback on achieving strategic goals of CRM.

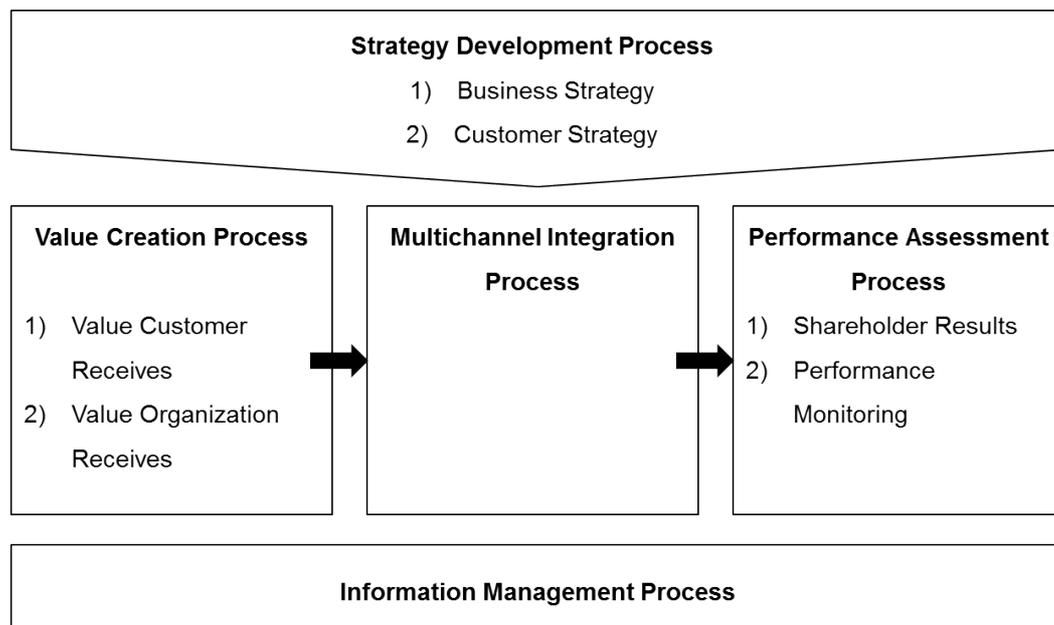


Figure 3: Key CRM processes (Payne & Frow 2005)

Nonetheless, even the strategic perspective on CRM is limited from a customer-centric point of view and discussion remains around the processes and how to embed customer centricity in them. Payne and Frow (2005, 168) state that it emphasizes “selective management of customer relationships to create shareholder value” revealing the overall goal for processes, even though they include the aspect of value creation for a customer as well. Only recently research in CRM has started to move towards using data to serve customers (Saarijärvi et al 2013) and aligning inter-organizational functions towards customer centric strategy (Awasthi & Sangle 2012). However, it is important to note that development in CRM does not exclude traditional CRM activities such as segmentation and customizing communication (Saarijärvi et al 2013).

Multichannel customer management extends the concept of CRM further towards customer centricity. Stone et al (2002) define multichannel customer management as an activity of managing customer in more than one channel in a consistent and coordinated way. Neslin et al (2006) adds the target of enhancing customer value. According to them multichannel customer management aims to increase customer value through effective customer acquisition, retention and development by actively designing, deploying, coordinating and evaluating channels where the company interacts with its customers. As can be seen the definitions are very close to the definitions of CRM but in the context of multichannel environment. This is supported by the definition from Payne and Frow (2004), which in short states that through developing customer relations CRM aims to maximize customer value. They also included multichannel integration as the most important process in their CRM framework. Multichannel customer management draws attention to the current business environment, which is characterized by multiple purchase and communication channels and the need for cooperation between channels.

2.2 Knowledge creates sustainable competitive advantage

All the time faster changes in external business environment, as well as more intensive and manifold competition, has raised knowledge as the most strategically

significant resource in a company (Grant 1996). With superior knowledge, a company can achieve their goals faster, with lower costs and higher quality than their competitors (Gebert et al 2002). Knowledge is seen as socially complex and hard to copy, and as an asset which value increases in use, and therefore as an ideal basis for a sustainable competitive advantage (Grant 1996; Davenport & Prusak 1998, 17; von Krogh 1998; Alavi & Leidner 2001). Gupta, Iyer and Aronson (2000) state that the knowledge a company possesses and how they use it is the only possible competitive advantage in the 21st century. Hence, knowledge management (KM) is concerned with identifying and leveraging knowledge in an organization in order to improve the organization's competitiveness (von Krogh 1998). It is a process that enables organizations to locate, select, organize, share and disseminate important information needed in activities like problem solving, strategic planning and decision-making (Gupta et al 2000).

Distinction between data, information and knowledge is relevant for this study. Typically data is regarded as raw numbers and facts, information is processed data that can be expressed with text, graphics or symbols, and knowledge is information in people's mind interpreted through their previous knowledge and experience (Alavi & Leidner 2001). Information has the possibility to impact on the receiver's perception on something and therefore change his or her judgment or behavior. Knowledge then resides within people and is framed with experience, values, contextual information and expertise. (Davenport & Prusak, 1998, 3-5.) In literature knowledge has been divided many times in different, and often quite sophisticated, knowledge types. Commonly knowledge is categorized as tacit and explicit knowledge. Explicit knowledge can be written down, stored and communicated, in other words it is easier to transfer. Tacit knowledge, or know-how, resides purely in people's minds and cannot be expressed in writing. This type of knowledge is also seen more valuable because of its' limited transferability. (Grant 1996.) In this study different knowledge types are not separated but knowledge is treated as one concept.

Knowledge management can be viewed as a process with various activities. According to Alavi and Leidner (2001) four basic processes of knowledge

management are knowledge creation, storing, transferring and applying. Knowledge creation refers to developing completely new knowledge or replacing existing knowledge (Alavi & Leidner 2001). Knowledge creation requires adequate time and space, and general recognition in the organization that knowledge generation is an important activity (Davenport & Prusak 1998, 67).

Knowledge can be codified for storing or it can be stored in organizational memory (Davenport & Prusak 1998, 68; Alavi & Leidner 2001). Knowledge in organizational memory resides among others in organizational culture, processes and structure (Alavi & Leidner 2001). When knowledge is codified for storing it is converted into an accessible and applicable format. Due to the complex nature of knowledge, codification is challenging but important since otherwise knowledge is only in people's minds. (Davenport & Prusak 1998, 87.)

For efficient knowledge transfer and even diffusion of knowledge, favorable conditions for knowledge transfer should be created. Information and communication processes drive knowledge transfer but often the informal interaction are more efficient so the importance of organizational factors is stressed. Grant (1996) argues that an organization's capability to integrate knowledge is the most critical one for success.

Finally, knowledge becomes valuable in action (Davenport & Prusak 1998, 6). Knowledge can form the basis for a sustainable competitive advantage if an organization is capable of applying it. Seeing knowledge as a capability includes the notion that knowledge has the potential to influence action. (Alavi & Leidner 2001.) Knowledge builds upon the ability to use information. As a result from learning and experience, a person is able to interpret information and verify what information is necessary in decision-making (Watson 1999, according to Alavi & Leidner 2001, 110)

2.3 Customer knowledge management

CRM and knowledge management have developed as very distinct disciplines but there are clear synergies between these two. Both CRM and knowledge management recognize the possibility to create value through suitable technologies, people and processes. They share the same objective to deliver continuous improvement towards customers and in recent years companies have realized that knowledge management plays a key role in successful CRM (Dous, Kolbe, Salomann & Brenner 2005). Managing relationships requires managing knowledge about, from and for a customer. Knowledge management provides practices that enable cost effective relationship management. (Gebert et al 2002.) Thus, the union between CRM and knowledge management seems very natural.

Combination of CRM and knowledge management has been conceptualized as customer knowledge management (CKM). CKM focuses on knowledge that is most valuable for a company, customer knowledge (Gebert et al 2002). Literature also recognizes term knowledge-based CRM (Bose & Sugumaran 2003; Dous et al 2005). CRM and CKM differ in directions, mediums, information and objectives. While CRM aims to customize every interaction with the customer, CKM aims to understand and learn from customers and about their needs. Dous et al (2005) define CKM as the utilization of knowledge for, from and about customers in order to improve and organization's capability relating to customers. Gibbert, Leibold and Probst (2002, 2) describe CKM as a strategic process by which companies can change their customers from passive recipients products and services to knowledge partners. According to them "CKM is about gaining, sharing, and expanding the knowledge residing in customer" in order to benefit both the company and the customer. When customer information is diffused and integrated throughout the organization it can be transformed into customer knowledge. Thus, customer knowledge competence can be created (Campbell 2003).

CKM has more holistic approach to customer information than CRM. It has developed to include information about, for and from customers. This categorization is introduced in Table 1.

Table 1: Information about, for and from a customer (Gebert et al 2002; Rowley 2002; Dous et al 2005)

	Information about customer	Information for customer	Information from customer
Type of information	Purchasing history, segments and demographic information.	Product, market and supplier information provided by the company.	Information possessed by customers about products, services or markets in general.
Collection	Captured in service and sales events. Usually happens automatically.	Mainly developed in processes like R&D and production.	Feedback received from customers.
Motivation	To offer individual customer experience, know customer habits and provide right offering.	To provide all needed information about products and services to support customer's buying decision.	Develop products and services based on feedback and enhance product and service information with customer's knowledge about them.

Definitions of customer data, customer information and customer knowledge can be drawn from the general definitions of data, information and knowledge. Customer data can be defined as a set of observations or facts that are not context-bound and that lie in the CRM or business intelligence (BI) databases

(Salojärvi et al 2010). Through interpretation and analysis data is transferred into customer information (Campbell 2003). Customer knowledge is related to human activity and includes meaning to people. In other words it is information that is interpreted through personal experience, skills, and competencies (Salojärvi et al 2010). Campbell (2003) defines customer knowledge as systematic customer information and that customer knowledge competence is based on knowledge generated in customer information processes that integrate the information throughout the organization.

There are several sources of customer information such as transactions and interactions with customers (Garcia-Murillo & Annabi 2002). Additionally, there are several levels of customer information. Different sources provide different kind of information. Transaction based data can be used for identifying preferences or problem but it is hard to tell what the reasons are behind the customer's decision. Information from interactions with customers can provide richer data and also explanations for certain behavior. (Garcia-Murillo & Annabi 2002.) Customer information that can be connected to a certain customer is used in operational work and in customer interactions. More general information about customer groups or segments is used for development decisions, such as changing the offering, but as well in strategic level combined with other external and internal information, such as financials or competitor information. Companies tend to emphasize the importance of single customer information to provide better customer experience and maximize customer value, but in development and strategic decisions other types of information have the tendency to overrule importance of customer information. However, CKM stresses having a two-way dialog with the customer, transferring information into knowledge and using it in strategic level in order to create value for both.

CKM is needed in order to respond to the customers' current and future expectations and to make customer experience a competitive advantage. From a the customer information point of view knowledge management capability is the organization's ability to capture, manage and deliver, in the right time, information related to customers, products and services in order to improve customer

response and enable faster decision-making (Alavi & Leidner 2001). Operational information in CRM is combined with knowledge within the organization which makes it possible to exploit analytical CRM systems and thus make truly customer centric business decisions (Bose & Sugumaran 2003).

CRM is often seen as strongly technologically and process-oriented, aiming at introducing activities to serve customers better. These processes enable customized customer interactions as the information residing in CRM system is used. However, knowledge management practices are needed in order to improve these interactions and find new ways of serving customers. While CRM focuses on managing relationships through rich customer databases, knowledge management categorizes and summarizes data in order to give data a meaning to support development and decision-making (Rowley 2004). Knowledge management sets the technological information processing power into effective use (Garrido-Moreno & Padilla-Mlendéz 2011).

CRM processes are highly knowledge oriented and thus managing knowledge in these processes is a critical success factor. The processes are characterized by knowledge intensity and process complexity. They build upon knowledge and their complexity requires knowledge for execution. (Gebert et al 2002.) Bose & Sugumaran (2003) look at the basic processes of knowledge management from the CRM point of view as knowledge-enabled CRM processes which promote knowledge-based and analysis-driven interactions with customers. These processes are described in Table 2.

Table 2: Knowledge-enabled CRM processes (Bose & Sugumaran 2003)

Knowledge-enabled CRM processes	Description
Knowledge identification and generation	Consists of recognition and creation of new knowledge related to customers, processes and markets to improve CRM activities.
Knowledge codification and storing	Refers to documenting the knowledge for future use, for example, as lessons learned.
Knowledge distribution	Disseminating the knowledge throughout the organization and making it available to all who need it. Depending on the organizational culture, this can use push or pull tactic.
Knowledge utilization and feedback	Ensures that knowledge leads to actions and improves all the processes for better utilization possibilities.

Gebert et al (2002) argue that CRM does not need self-oriented knowledge management processes. Instead they suggest setting goals for managing critical knowledge in business processes. The goals build upon each other and are described in descending order in Table 3. Gebert et al (2002) note that goals do not add any value as such, but within the business processes.

Table 3: KM goals (Gebert et al 2002)

Knowledge management goals	Description
Ensure knowledge transparency	Transparency correlates with knowledge manageability. High degree of manageability demand high degree of transparency.
Manage knowledge dissemination	Helps to define the degree of sharing customer knowledge across the organization.
Enable knowledge development	Helps to define requirements for knowledge adaptation and creation.
Maintain knowledge efficiency	Directs to select relevant knowledge from the vast amount of knowledge available.

There are similarities between knowledge-enabled CRM processes and knowledge management goals for CMR processes. For example knowledge creation and dissemination occurs in both models. However, Gebert et al (2002) do not suggest any measures for the goals; how to know whether they have been achieved. Equally the processes presented by Bose and Sugumaran (2003) can be hard to describe “activity by activity” as they rather are embedded in other processes and organizational practices. Yet, the processes describe better the means that need to take place to embed management of knowledge into CRM processes and the whole organization. Furthermore, by creating technological and organizational prerequisites these activities can be enhanced.

In order to manage CRM effectively, organizations have to develop their capabilities related to CKM processes (Garrido-Moreno & Padilla-Mlendéz 2011). However, very basic issues can hinder building a customer-oriented organization

and applying CKM. Attitudes, processes and reward systems may need to be changed (Garcia-Murillo & Annabi 2002). Concerning benefits for the organizations, the biggest rewards are not necessarily in improving operational efficiency but with empowering management in the strategic decision-making process. This is achieved through acquiring and sharing customer knowledge allowing the company to become knowledge driven organization. (Xu and Walton 2005). An outcome of successful CKM is having a better understanding of the customer, his or her true needs and expectations (Garcia-Murillo & Annabi 2002).

3 USE OF INFORMATION

Information does not create value unless it is used (Bose & Sugumaran 2003). Existing knowledge as such does not necessarily make any difference to the organization's competitiveness but the ability to effectively apply existing knowledge in order to create new knowledge and to act accordingly can make a difference (Alavi & Leidner 2001). In other words, investments in analytics may be useless if employees cannot incorporate the information in decision-making (Shah, Horne & Capellá 2012). This chapter first defines use of information and then discusses the different factors affecting use of information in an organization.

If an organization's capability to utilize information is a prerequisite for achieving return on an investment, what determines success and how information utilization can be linked to that? Success is ultimately defined by customer satisfaction and the company's financial performance. It is most likely possible to track which activities have resulted in, for example, an increase in customer satisfaction, but what is the role of information and which piece of information has led to this activity? In this point it is relevant to define what "use of information" means. In this research use of information is seen as a process, which includes picking up information, processing it and applying it (Rich 1997). Yet it is good to notice that processing information can lead to applying or "non-applying". Both are equally important as sometimes it is correct to ignore the information. Therefore, use of information can either lead to an action or not lead to an action. In the processing phase information is combined with existing knowledge and new knowledge can be created.

Use of information is affected by several factors. In multichannel organization especially, data integration forms the foundation for efficient information use. Quite obviously information quality, consisting of both content quality and accessibility, influences the employees' willingness to use information. Nonetheless, organizational factors do have a major impact on information use. These include organization structure, culture and skills. They define the attitudes and values,

formal and informal processes and social interaction points in an organization. Next each of these factors will be discussed in detail.

3.1 Data integration as the basis for information content and access quality

In a multichannel environment, the role of integrating channels in order to present the unified view of the customer is clearly crucial (Awasthi & Sangle 2012). This requires integration of customer data, which includes collecting customer data in all channels in which the company and the customer interact as well as linking and analyzing the data in a holistic way (Zhang et al 2010). However, information collection has traditionally taken place separately in each channel as well as the analysis and usage of that information. A company can have several CRM systems, referring to IT systems in which the data lies. Thus for information use this is not an optimal situation but the aim should be to integrate the data into one system for analysis and usage. Popovic et al (2012) call these systems business intelligence systems (BIS). They offer technological solution for data integration as well as analytical capabilities to provide information for decision-making. Popovic et al (2012, 729) define BIS “as quality information in well-designed data stores, coupled with business-friendly software tools that provide knowledge workers timely access, effective analysis and intuitive presentation of the right information, enabling them to take the right actions or make the right decisions”. In their definition data quality and accessibility are emphasized.

Zhang et al (2010) argue that integrated information technology infrastructure is a major challenge for conducting efficiently multichannel strategies. Neslin et al (2006) describe the ideal situation as such where a company would have a single view of the customer across channels. In this case the company would have data showing which channels each of its’ customers visit in each stage of the purchasing process, including competitors’ channels used. BIS enables forming a single view of a customer and it is commonly accepted that operating in a multichannel environment requires data integration, at least on some level. The question is “What is the sufficient level?” Data integration can be challenging and

costly. Many of the companies that could greatly benefit from multichannel operations are those who find it the most difficult. Companies with a long history, large customer database, and complex products also have a long history in IT leading to many legacy systems where the data lies. (Stones et al 2002.) These companies have huge potential in the customer data that they possess but are unable to exploit it, or at least it is exceedingly costly. Zhang et al (2010) divides data integration into two perspectives: inward flow of information and outward flow of information. The first refers to the IT infrastructure enabling collecting and processing of data. The latter refers to the capability to analyze, pick and share only the relevant information turning it into customer knowledge that can be utilized in the channels. According to Popovic et al (2012) data integration, i.e. inward flow, and analytical capabilities, i.e. outward flow, together define the maturity of a business intelligence system, which is the foundation for use of information.

Information quality can be viewed from two perspectives, content related quality and access quality. Quality information is relevant or specific to the problem in hand, accurate, up-to-date and reliable (O'Reilly 1982) but it also needs to be easily available. Accessibility combines information processes and infrastructure to the concept of information quality (Popovic et al 2012). Sophisticated business intelligence systems that produce a higher level of data integration and improved analytics increase the content quality of the data. The connection between information system maturity and information quality leading to information use is described in Figure 4.

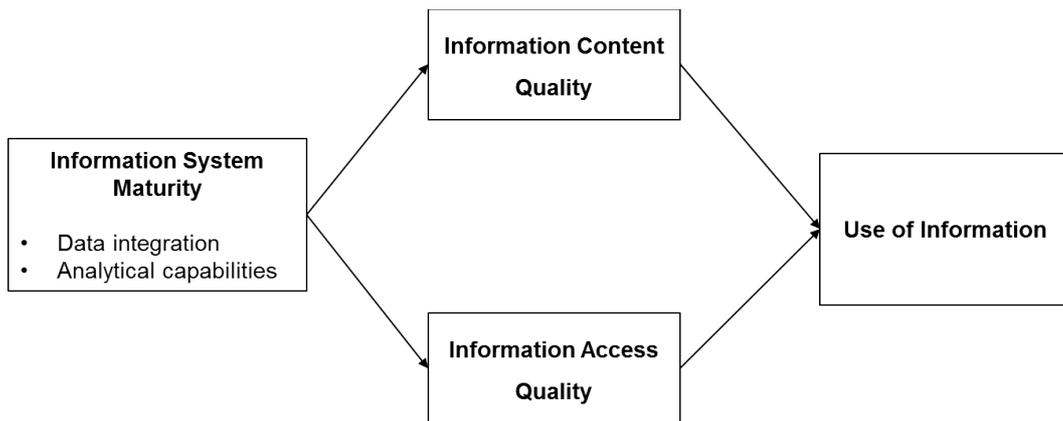


Figure 4: IS maturity and information quality leading to use of information (Popovic et al 2012)

As the relation between information content quality and use of information in decision-making is well established, O'Reilly's (1982) study showed information accessibility to be more important. He studied use of four different information sources and out of these three cases showed that accessibility was significantly associated with frequency of usage. On the contrary, the research by Popovic et al (2012), showed contradictive results. In their study information content quality had a significant impact on information usage whereas access quality had a non-significant impact. These contradictive results can be explained at least partly by a technological development between the studies. Current technology, such as cloud computing allowing access via the internet, enables increased accessibility and availability (Citroen 2011). Another explanatory factor could be respondent groups in each study. In O'Reilly's study respondents were eligibility workers, whilst in the study of Popovic et al. respondents were CIOs and other managers having sufficient knowledge of business intelligence systems, therefore more IT-oriented.

Further, Popovic et al did not consider the social and economic costs related to accessing information. Although another source of information is perceived better in content quality, if the costs are too high information source with lower content quality and easier accessibility will be chosen (O'Reilly1982; Choo 1996). And often decision-makers' face such time constraints that encourage this kind of behavior. This point of view is supported by Shah et al (2012) who argue that

information inaccessibility is a barrier to use information, even if it is known that reliable information exists. Their study indicated that less than 44% of employees know where to find the information needed in their daily work. This could also imply that information is not widely enough available and access is concentrated on few employees in an organization.

Moreover, it is worth of noting that quality is a subjective interpretation of a person. What is perceived as quality information for one may not mean the same for another. Personal preferences, experience, and goals may affect the notion of quality. In addition, trust against the quality of information strengthens as it proves to be reliable in use and encourages using the same source again. (O'Reilly 1982.)

3.2 Mediating organizational factors

As both content and access qualities have an effect on information usage, both of them are largely dependent on technological solutions implemented. Purely from a technical point of view, this should not be a problem anymore and there are instead many suitable solutions available. Yet companies that have the technical solutions in place cannot exploit the data so that it would create competitive advantage.

Campbell (2003) studied internal processes in CRM implementations that help to create customer competence. In her study, managers tended to overemphasize data acquisition and neglect analysis. Managers expected that once the technological solutions are in place and data is accessible, the information would be understood and communicated. Considering the large amount of CRM implementations that fail to pay off the investments, this would imply that there are other critical aspects to consider. Salojärvi et al (2010) also support this viewpoint and argue that efficient utilization of customer knowledge requires more than investments in CRM or BI systems.

Campbell's (2003) study suggests that new kinds of skills are needed for effective communication of customer information across different functions. Salojärvi et al (2010) call for formalized systems and processes as well as appropriate organizational structures to support CRM or BI implementations. Even though importance of customer-oriented organization is well recognized, trusting that it leads to action is not enough. Creating a knowledge culture where customer information is efficiently utilized requires reconsidering different organizational aspects and investing in them. These include among others organizational culture, structure, skills and reward systems that promote more efficient knowledge creation, transfer and use.

Garrido-Moreno and Padilla-Mlendéz (2011) found in their research that organizational variables; strategy, top management support, organization structure and human resources, most determine how successful an organization is with CRM. Thus, before heavily investing in implementing knowledge management initiatives, organizations should ensure that supporting organizational variables are in place since they also mediate the effect of knowledge management initiatives. (Garrido-Moreno & Padilla-Mlendéz 2011.) Moreover, the overall success with CKM requires the right synergy between technology, processes and people (Xu & Walton 2005). Hence organizational aspects have a strong influence on information utilization and organizational culture can be a major obstacle for leveraging knowledge assets (De Long & Fahey 2000; Xu & Walton 2005).

3.3 Organizational structure enabling collaboration

Organizational structure may prevent access to information sources (O'Reilly 1982) and it affects social interactions in an organization (Chen & Huang 2007). Thus it may act as an obstacle for information usage and sharing. Zhang et al (2010) raise this as one of the major challenges in a multichannel organization. They argue that a company's ability to exploit cross-functional synergies depends strongly on its' organizational structure. Literature on organizational structures often promotes a decentralized model because it means distributing authority and

decision-making in an organization. Centralized structure is linked to hierarchical and concentrated decision-making. (Chen & Huang 2007.)

Many companies have a decentralized organizational structure when it comes to channel management and it does have some advantages. It allows greater focus on each channel. Channels can adjust their offering according to the competitive situation in each channel. Even so, a decentralized organization cannot necessarily answer to the customers' need for seamless customer experience across channels and duplicate functions cause inefficiencies in business processes. Especially in a decentralized organizational structure, a major problem is to form shared understanding of the customer information (Campbell 2003). Furthermore, competing channels can also cause internal conflicts and sub-optimization.

In multichannel environment advantages of centralized structure include, amongst other things, improved information sharing in form of leveraging customer information from one channel to improve decisions in another (Zhang et al 2010). It could be argued that in a multichannel organization, against the recommendations of the literature, a centralized structure would be better.

Perhaps this controversy has led to a situation where semi-centralized model is the most popular in multichannel organizations. The semi-structured model lies in between decentralized and centralized organizational structures and builds on informal structures and cross-functional networks and committees. Hence, a multichannel organization should put weight on two other elements of organizational structure: formalization and integration. Formalization refers to the degree of standardization of work assignments and the amount of authoritative procedures and guidelines. Integration is the level of cooperation and interaction between different functions within an organization. (Chen & Huang 2007.) Organizational structure needs to be designed so that it minimizes the extensiveness and intensity of communication needed for knowledge integration (Grant 196). A less-formalized and more integrated organizational structure would

encourage information sharing and creating a shared understanding in a multichannel organization.

Though formal structure strongly guides organizational practices, it requires a great deal of attention from management to build a working informal structure on top of the formal organizational chart. Here organizational culture plays a big role and companies should for example consider their compensation systems so that they support cross-functional cooperation and not the opposite.

3.4 Creating knowledge culture

Organizational culture is reflected in values, norms and practices (De Long & Fahey 2000) such as the position of the customer, value of information in decision-making, and attitude against sharing information. Culture shapes processes of creation, sharing, and using of knowledge. It can be seen as a form of common knowledge and a factor that facilitates knowledge integration within an organization (Grant 1996). De Long & Fahey (2000) even argue that behavior generated and tolerated by culture can be inimical to development and generation of knowledge. In order to evaluate how the culture is currently affecting knowledge processes of creation, sharing and use, management has to first understand how culture in general affects knowledge behavior. This determines whether to adopt knowledge management practices to the existing culture or to first try and change the culture. (De Long & Fahey 2000.)

According to De Long & Fahey (2002) there are four ways how organizational culture affects the use of knowledge. Firstly, the culture shapes the perceptions of important knowledge. Information that is seen as relevant and valuable determines directly which kind of information is used and which other information may be neglected. This kind of behavior narrows the use of information and eventually negatively effects new knowledge creation and diminishes the competitive advantage that could be gained.

Secondly, culture defines the unspoken rule of how knowledge is distributed in an organization. It defines what kind of knowledge is regarded as individual knowledge and what kind of knowledge belongs to the organization. How an organization respects individual work versus teamwork or, from cross-functional perspective, different departments, affects the willingness and habits of sharing knowledge. (De Long & Fahey 2000.)

Thirdly, culture also sets the context for social interactions. Whether the organization is hierarchical or collaboration across functions is promoted or not, defines largely on what kind of social interaction occurs and how knowledge is distributed. (De Long & Fahey 2000.) Organizational culture can positively affect knowledge management through social interaction by increasing communication, trust and cooperation amongst employees and in this way results in a higher degree of knowledge sharing and use (Chen & Huang 2007).

Fourthly, an organization's readiness to adopt information and exploit it in order to create new knowledge is affected by culture (De Long & Fahey 2000). Popovic et al (2012) found in their study that an analytical decision-making culture has a significant impact on information use. It even overrules the effect of information quality when the analytical decision-making culture is strong enough meaning information is used regardless of its content quality. Therefore, in organizations where the analytical decision-making culture is low, increasing the content quality positively affects information use. However, as content quality can be improved only to a limited extent, or it is cost-efficient to do so, promoting analytical decision-making culture can lead to yet a higher level of information use.

Organizational culture is a critical factor in facilitating learning, sharing and knowledge creation. A culture that promotes integrating individual know-how and experiences into organizational knowledge with appropriate incentives will be more successful. (Gupta et al 2000.)

3.5 Skills required for analytical decision-making

Shah et al (2012) state that good data does not guarantee good decisions and therefore call for analytical decision making skills. According to Shah et al this hinders companies to fully exploit benefits from the data they possess. In addition to investments in IT, an organization needs to invest in understanding the information. This means not only investment in analytical IT solutions but expertise of employees. Lack of analytical skills can be a barrier for information use (Shah et al 2012; Davenport et al 2001). Analytics is often centralized into one department in an organization while the use of information is, or should be, diffused throughout the organization. This may lead to a situation in which there are only few people with sufficient analytical skills and they all additionally work in the same department. As a result these people are true experts and often overloaded with work. Davenport et al. (2001) indicated that analytic resources should be distributed more evenly over time as managers rather deal with analysts in their own units than with a centralized group. This would bring business and analytical skills closer together and eventually improve data-to-knowledge capabilities within the organization.

Another important notion is not only that the business analysts need analytical skills but decision-makers need these skills as well. Davenport et al (2001) distinguish five different types of skills that are needed: 1) Technology skills, 2) Statistical modeling and analytical skills, 3) Knowledge of the data, 4) Knowledge of the business, and 5) Communication and partnering skills. Both business analysts and decision-makers need skills from all groups but with a different emphasis. Table 4 describes the skills needed in each role.

Table 4: Skills needed by business analyst and decision-maker (Davenport et al 2001)

	Business Analyst	Decision-maker
Technology skills	<ul style="list-style-type: none"> • Data extractions • File import/export • Statistical, reporting software 	<ul style="list-style-type: none"> • Desktop queries • Data visualization • Database marketing
Statistical modeling and analytic skills	<ul style="list-style-type: none"> • Quantitative statistics • Data mining • Neural networks • Data presentation and reports 	<ul style="list-style-type: none"> • Analytic conceptualization • Interpretation of findings • Limitations of statistical analysis
Knowledge of the data	<ul style="list-style-type: none"> • Data availability • Data strengths and weaknesses • Data currency • Definitions of fields • Data validity 	<ul style="list-style-type: none"> • Data strengths and weaknesses • Definitions of fields • Data validity
Knowledge of the business	<ul style="list-style-type: none"> • Business strategy • Business model • Business drivers • Business objectives • Business terms 	<ul style="list-style-type: none"> • Business strategy • Business model • Business drivers • Critical issues • Competitive factors • Resource constraints • Implementation and acceptance
Communication and Partnering skills	<ul style="list-style-type: none"> • Listening • Persuading • Teaching • Collaborating • Presentations to management 	<ul style="list-style-type: none"> • Teaching • Learning • Collaborating • Persuading • Presentations

Whereas business analysts are usually experts in that specific area and knowledge about business comes along the job, it may be more difficult for decision-makers to adopt skills from the first three groups. It may also be that

these skills are not expected from decision-makers but the information should be so well processed in advance that business and communication related skills are considered sufficient.

In this chapter use of information was defined and factors affecting it determined. Information system maturity lays the foundation for efficient information use. Information content and access quality enhance information use to a certain point, but in order to have a return on investment in technology and knowledge initiatives, organizational factors have a major effect on success.

4 RESEARCH GAP AND THEORETICAL FRAMEWORK

This study aims to identify the main obstacles for customer information utilization across multiple sales channels and to find out how use of customer information can be integrated throughout multiple sales channels. Customer knowledge management and use of information were chosen as the theoretical basis of the research. The former constitutes the context for the study and the latter is the phenomena under investigation. The purpose of this chapter is to determine the research gap and to present the theoretical framework work of the study.

4.1 Research gap

It is widely acknowledge that managing customer knowledge is critical for success now and especially in the future. Moreover, companies make large investments in technologies enabling collection, storing and analysis of customer data hoping to be able to serve customers better and at the same increase revenue. However, studies show that these implementations often fail, or companies are unable to harvest the benefits from their investments in customer data. There are previous studies concerning use of information or knowledge that focus on one or more influential technology or organizational factor. For example, De Long & Fahey (2002) focused on organizational culture and Garrido-Moreno & Padilla-Mlendéz (2011) included employees, leadership and structure as organizational factors to their study. In their framework for turning data into knowledge and results, Davenport et al (2001) had strategy, skills, culture, and technology as the underlying factors. Like in the study of Davenport et al (2001), use of information is often studied in relation to decision-making.

Popovic et al (2012) was one of the first to combine BIS maturity, information quality aspects, and analytical decision-making as a cultural factor. Their study indicated that the an analytical decision-making culture is a critical factor, but they also suggest studying the phenomena in organizations with different cultures. This study extends the scope of organizational factors considering structure, culture and skills. As Popovic et al (2012) show, this study wants to expand the focus from

technology to people who actually use the information provided by technology and factors affecting their behavior.

Within multichannel management popular areas of research have been customer segmentation based on their channel preferences and channel selection (Dholakia et al 2010). In addition, customer behavior concerning channel choice and how offering multiple channels affect customer loyalty and value have gained a lot of attention. Verhoef et al (2010) suggest that insights from organizational behavior could bring value to the research of successful multichannel management.

In reality in business it shows that companies are struggling to fully exploit customer data they possess and build integrated multichannel strategies offering a unified customer experience so it is worth taking a deeper look into the factors preventing this. It seems that there is no previous research concerning use of information in a multichannel environment. This is the research gap this study aims to fill in order to form a better understanding of the challenges that need to be solved in order to create customer knowledge and use it as a competitive advantage.

4.2 Theoretical framework

Theoretical background for the study was presented in the literature review in chapters two and three. Based on previous research and literature, a theoretical framework for this study is drawn.

Customer knowledge management (CKM) forms the context of the study as illustrated in Figure 5. CKM emerges from the synergies of CRM and knowledge management. In this study both CRM and knowledge management are seen as process-oriented activities. Business strategy guides the whole organization, and customer knowledge is actively influencing in forming the strategies. The rest of the customer management processes are seen more as operational activities that aim to create value to both the customer and the company. Value creation takes place in multiple channels and requires channel strategy and coordination. The

basic knowledge management processes of knowledge creation, storing, transferring, and application need to be embedded in the practices and values of an organization in order to manage customer knowledge efficiently. Within these processes customer data is transferred as customer information, which in turn converts into customer knowledge and is then diffused across the organization.

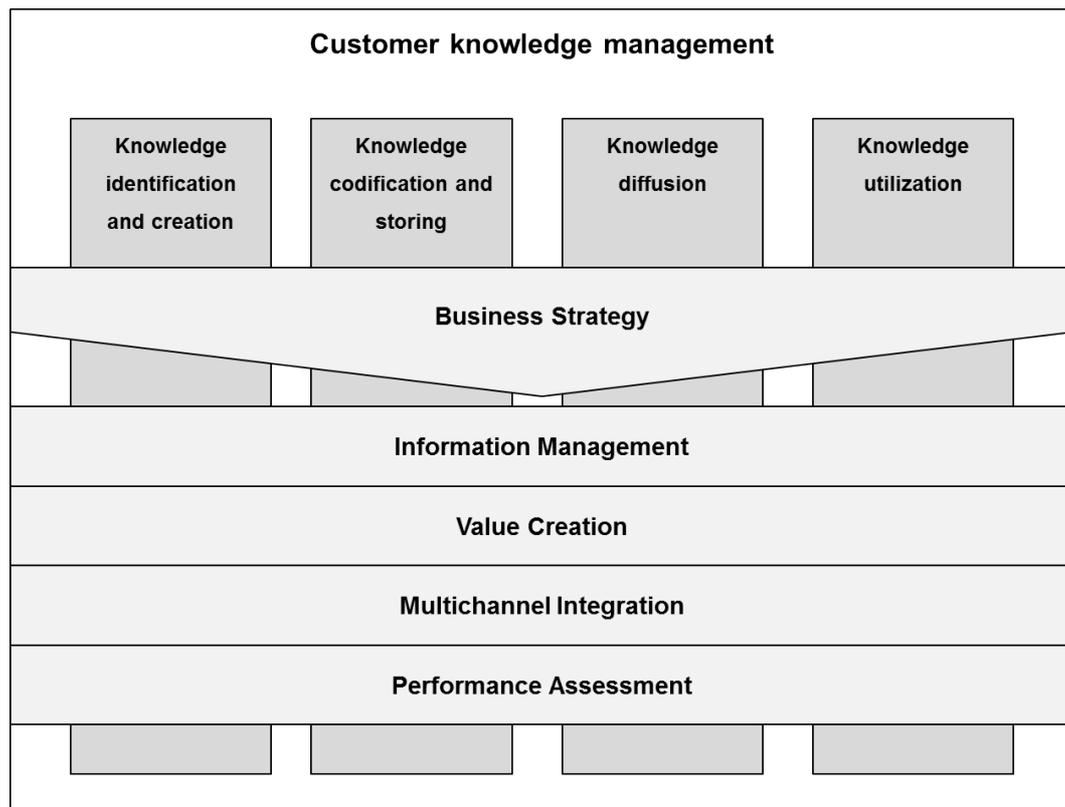


Figure 5: Context of CKM

In this study CKM is defined as utilization and integration of knowledge about, for and from customers in order to create superior customer experience and thus improve competitiveness of the company. CKM addresses both strategic and operational levels and the basic knowledge management processes are embedded within it.

Use of information is defined to include detecting, processing and application of information. It is assumed that through use of customer information a company can form shared customer understanding and create new customer knowledge.

Transferring information into knowledge includes consequences or in other words: “What implications does the information have for decisions and actions?” (Davenport & Prusak 1998, 6). Hence, it is the key for creating superior customer experience and improving competitiveness.

Based on the literature factors influencing use of information were identified. Even though this study does not concentrate on technological solutions or aspects, it is clear that they have to be taken into account. In this framework, technological solutions form the basic prerequisite for information use and customer knowledge management as well. Customer data needs to reach a certain level of maturity in order to be of use. Especially in multichannel environment technology enabling data integration is crucial. Furthermore, as the amount and variety of data increases all the time, analytical capabilities are increasingly important.

Information quality consisting of access and content quality is the next level in the framework affecting information use. Information needs to be perceived sufficiently in content quality and it needs to be easily accessible.

Thirdly, three organizational factors were defined to be critical for information use; organizational structure, culture and skills. Both the structure and culture need to encourage and enable use of information. Moreover, decision-makers need sufficient analytical skills in order to understand and make sense of the customer information. The framework for use of information applied in this study is described in Figure 6.

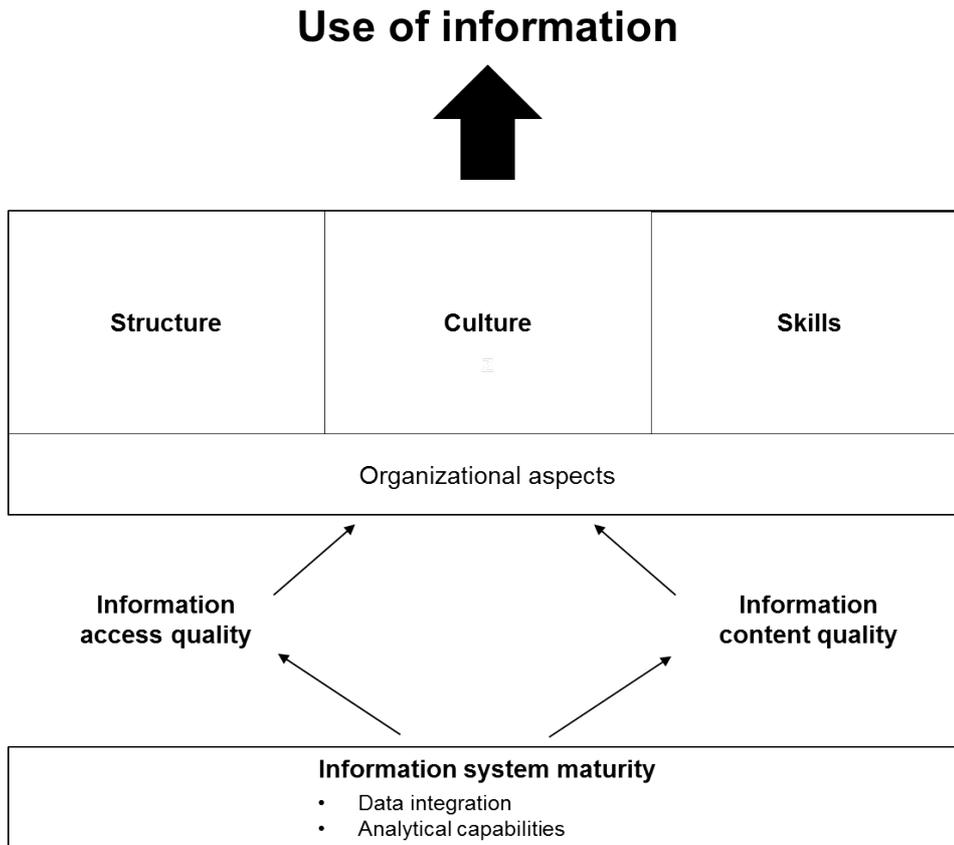


Figure 6: Framework for use of information

5 RESEARCH DESIGN

Scientific research may aim at several possible goals, for example describing, understanding or predicting a phenomenon. Alternatively, it can aim at finding a solution to a specific problem at hand. This research aims at understanding and explaining obstacles related to integration of customer information utilization throughout multiple sales channels. Deciding whether to utilize information and determining how to utilize it depends on people even when there are defined processes for the information flow. Reasons behind the decisions can be complex and manifold. Currently, retail business has moved into a multichannel environment where integrated use of customer information is a necessity. This brings an increased amount of complexity and increases requirements for information processes in organizations. In order to reach a deep enough understanding, a qualitative research approach was chosen for this study. Additionally, there are multiple possible theoretical points of views to the research problem and qualitative research allows maintaining required flexibility between theory and empiric during the data collection.

For this research, case study was chosen as a research strategy. Eisenhardt (1989, 534) defines case study as “a research strategy, which focuses on understanding the dynamics present within single setting”. Yin (1981) in turn states that a case study tries to explore current phenomena in real life context and that the boundaries between the phenomenon and the context are not clear. Case studies can include single or multiple cases and combine different data collection methods such as interviews, observations, and documents (Eisenhardt 1989). This is a single case study and it is exploratory in nature.

Case studies have been criticized for their inability to generalize or create general propositions based on individual cases (Flyvbjerg 2006). However, this viewpoint has changed over time and in-depth case studies are seen as an excellent possibility to understand interactions between a phenomenon and its context (Dubois & Gadde 2002). When studying business life in particular, where pure theoretic view cannot be applied, a case study is a good research strategy

(Koskinen et al. 2005, 154-157). However, there is also debate as to whether to apply single or multiple case study. Dubois and Gadde (2002) argue that when the research problem is analyzing a number of interdependent variables in complex environments, a deeper understanding of a single case is preferential. Furthermore, Koskinen et al. (2005, 161-162) say that a single case allows concentration and thorough investigation leading to a reliable description. Case studies are said to be arbitrary and subjective.

Qualitative research is rarely linear but an iterative process where the researcher has to move back and forth between different phases. Typically the relation between the theory and empirical part is flexible. On the other hand theory guides the study and in this case conducting the interviews and analysis of the data. Yet the theory develops and completes along the empirical findings. (Silverman 2000; Dubois and Gadde 2002; Koskinen et al. 2005.) Dubois and Gadde (2002) describe this as matching of theory and reality in their framework of systematic combining. Deriving from this, an abductive approach is applied in this study. It is positioned between a deductive, or theory-based approach, and an inductive alias data-based approach. An abductive approach is closer to a deductive approach but stresses more the interplay between theory and empirical evidence. Theory wise, the approach leans more toward theory development than theory generation. (Dubois and Gadde 2002.)

In this study the preliminary understanding of the backing theory was associated with multichannel customer management, CRM, and integrated data. Multichannel customer management supported the understanding of the business environment and its requirements, challenges, and benefits. In turn CRM and integrated data consider customer information mainly from the IT infrastructure point of view giving the basis and premises for utilizing customer information. Theory basis for customer information utilization was found within the concept of “use of information”. Based on the analysis of the data collected, additional theoretical study was directed towards organizational aspects affecting use of information and subsequently their importance in the theoretical framework rose. Further customer

knowledge management formed the context comprising knowledge management and CRM processes.

5.1 Description of the data

Derived from the research topic, exclusions and theory, the case organization was chosen to meet the following requirements:

- Large organization (+250 employees)
- Operates in multichannel environment
- At least 10 years of history
- Operates in consumer business

However, to limit the research scope, it was determined that case organization should operate only in national markets, and at least in the business area chosen for this research. The main criteria was that the organization has multiple retail channels and a long enough history to demonstrate the overall change in retailing caused by digitalization. Furthermore, existing theory indicated that organizations with longer history face larger challenges with customer information utilization than organizations born for in the new digitalized era.

The data for the study was collected through semi-structured interviews in the case organization. In addition, further background information was investigated in order to gain a deeper insight to the operational environment and to support the analysis.

The main data collection method used was interviews. According to Hirsjärvi & Hurme (2000, 35) an interview is a suitable method when a human can be seen as a subject and there is little knowledge on the issue in hand in advance. An interview gives the possibility to clarify and deepen the information when needed. Although in an interview there is a risk of finding only passive data or in other words things that are set out to be found. Discovering active data requires a passive interviewer. (Dubois & Gadde 2002.) At best, interviews provide rich data that takes into account the physical and social context as well as the intentions of the actor' (Schultze and Avital 2011). Because of this, analyzing the meaning and

significance of behavior or events is possible. Thus, interviews were chosen as the main method due to the difficulty of predicting the direction of the answers. Furthermore, as the study concerns actions based on human decisions and communication between people, interviews were seen as the best method to access the data and get a deep enough information and understanding.

The interviews were semi-structured, i.e. in which some aspects of the interview are fixed but not all (Hirsjärvi & Hurme, 2000, 47). According to Koskinen et al (2005, 105) this has become the most popular data collection method in qualitative research. It is effective as it gives the researcher the possibility to guide the interview without fully controlling it. The following themes for the interview were planned based on the theory and preliminary interview:

- Collection and analysis of customer information
- Customer information flows and knowledge sharing
- Customer information and decision making
- Customer information and channel management

Themes and sub-research questions were linked, as described in Table 5, in order to make sure that each sub-question to be answered by empirical data would be answered. Under each theme there were questions to guide the interview. However, the wording and the order of questions altered to some extent in the interviews, adapting to the situation. The interviewees were encouraged to discuss the themes. The interview questions can be found in appendix 1.

Table 5: Sub-research questions and interview themes

Sub-research question	Interview theme(s)
<i>What are the main sources of customer information?</i>	Collecting and analyzing customer information
<i>How customer information is shared between sales channels?</i>	Customer information flows and knowledge sharing
<i>How is customer information utilized in channel management?</i>	Customer information and decision making Customer information and channel management

The interviewees were identified on the basis of the organizational structure. Firstly, the sales channels were identified to include the following:

- Store
- Telesales
- Online
- Retailers
- Customer service

In addition to from the organization chart main departments producing and processing customer information were identified. Three departments, business intelligence (BI), reporting and customer relations, were chosen because of their prominent role in relation to customer information.

Following this, representatives from each retail channel were identified. Persons in managerial positions were chosen as that they have adequate authority to determine and direct actions based on the customer information. They also have experience and knowledge concerning customer information utilization in the case organization. Altogether nine interviews were completed and these are listed in Table 6.

Table 6: Interviewees

	Role	Department / Channel
1	Manager	Customer relations Telesales
2	Manager	Reporting
3	Director	Online
4	Director	Store Retailers
5	Director	IT infrastructure
6	Manager	Online
7	Manager	Online
8	Manager	Customer Service
9	Manager	Business Intelligence

Seven interviews were carried out individually and one interview was carried out with two people. All interviews were held on the case organization's premises. The language used in interviews was Finnish, the native language of all the interviewees and the interviewer. Interviews were recorded with the permission of the interviewees.

To support the data received from the interviews and to gain a better understanding of the operational environment, further background information was gathered and investigated. This includes the following:

- Organizational charts
- CRM-related IT infrastructure

This enabled the comparing of formal organizational structures with the data received in interviews.

5.2 Analysis of the data

Content analysis was used as a analysis method following an abductive analysis perspective. The abductive analysis approach is based on theoretical key ideas against which the data is compared (Hirsjärvi & Hurme, 2000, 136; Tuomi & Sarajärvi, 2013, 95). Theory and previous knowledge about the research topic influences the analysis but the meaning is not to test existing theory but rather make it possible to open new points of views (Tuomi & Sarajärvi, 2013, 96-97). The analysis process was adopted from the model presented by Tuomi and Sarajärvi (2013, 109) and is summarized in Figure 7.

Preliminary analysis of the data was started simultaneously with data collection. After each interview notes were written down as well as questions for further analysis. Transcribing the recorded interviews were done at the same time as the data collection in order to improve interview technique and make some issues clearer to the interviewees. Doing data analysis at the same time with data collection allows the possibility to make adjustments during the data collection process and therefore improve the quality of the data thus giving the opportunity to deepen the understanding of that specific case. (Eisenhardt 1989.) In this case it was noticed, for example, that the definition of customer information required more attention in the interviews.

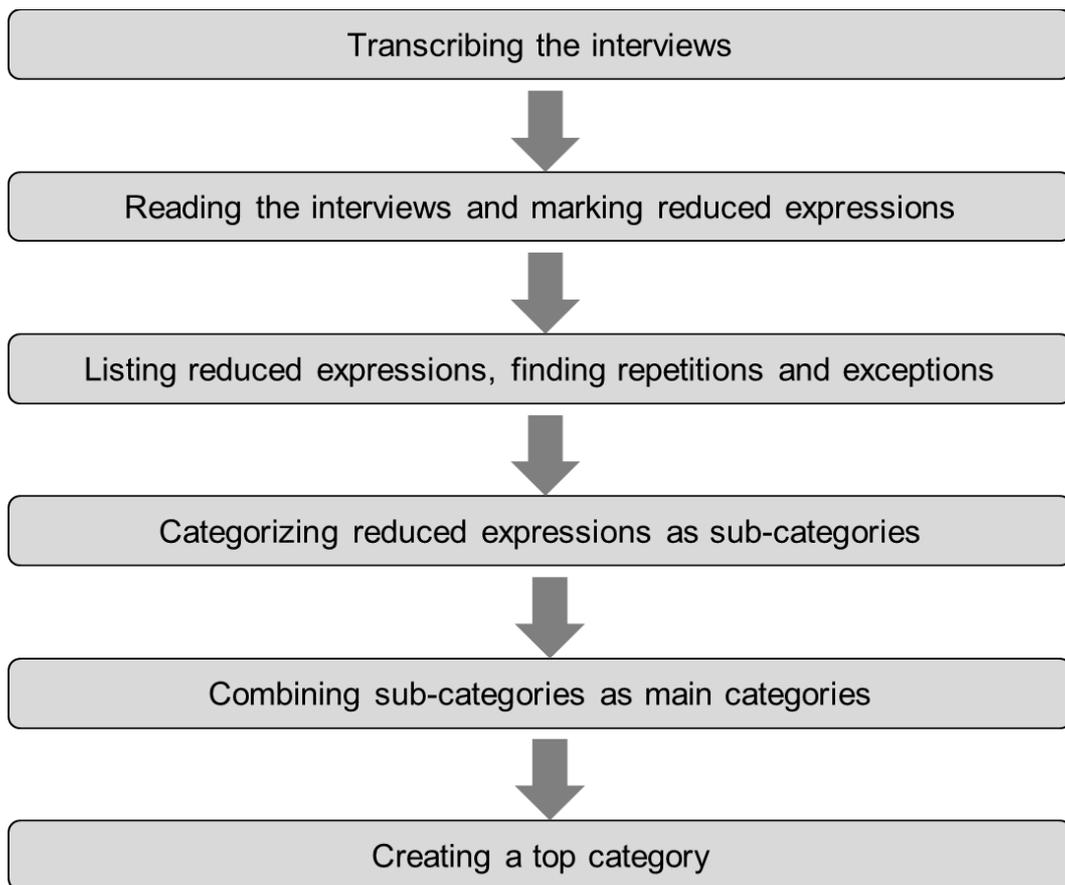


Figure 7: Data analysis process

In order to get a good overview as well as for orientation, the interview transcripts were read several times and reduced expressions in each of them highlighted with different colors. At the same time, notes and questions were written down in Excel, and in addition main tasks and targets of each channel were listed as well as the respondents' own definitions of customer information. After all the data had been thoroughly read, the reduced expressions were listed in Excel. At the same time, repetitions and exceptions were marked to the list.

In the next phase the data was categorized. This included three steps. Firstly, the reduced expressions were categorized in sub-categories. These were based on the data. In the second step these sub-categories were first refined and then combined as main categories. Main categories were derived from the theoretical framework presented in chapter 4.2 in order to link the empirical data to the

theoretical concepts. Lastly, a top category, which combined the sub and main categories, was created. Categorization used is described in Table 7.

Table 7: Data analysis categories

Sub-categories	Main categories	Top category
Data collection Analytical capabilities Information availability Information quality	Information management	Customer information utilization
Information sharing Inter-organizational interactions Organizational structure	Information distribution	
Customer interactions Targeting sales and marketing Channel development Channel management Leading with customer information Technology capabilities	Analytical decision-making	

5.3 Research reliability and validity

In order to evaluate the reliability and validity of this research techniques suggested by Riege (2003) were applied. Case study techniques used are described in Table 8. Case study as a method is concerned with building theory and aims at deepening the understanding of real life phenomena. Based on a typical design test used in qualitative research, Riege (2003) has defined four specifically suitable ways to improve quality of case studies.

Firstly, construct validity creates appropriate operational measures from the theoretical concepts being studied and builds confirmability. Case study is subjective in nature due to the researcher's direct relation with the organization and people. This can be minimized by having multiple sources of evidence, establishing a chain of evidence, and having key informants reviewing the draft report. (Riege, 2003.) In addition to the data gathered from interviews, additional information was collected by investigating organizational charts and related IT infrastructure. The goal is to document the entire research process so that the analytical logic can be followed from the research questions to conclusions by an external investigator. During the process two examiners commented on the study in different phases and additionally one informant reviewed the study after the theory and research design were completed, and two informants reviewed the study once the analysis was ready.

Secondly, in a case study internal validity emphasizes coherent research process and thereby establishes the phenomena in a credible manner. This means using within-case and cross-case comparison, and by clearly describing and illustrating the data analysis phase. (Riege, 2003.) This study was a single case study meaning within-case analysis was performed. By thoroughly familiarizing oneself with the case, an in-depth understanding and description of the case could be gained.

Thirdly, external validity referring to transferability seeks generative mechanisms through analytical generalization where findings can be generalized, for example, to a broader theory. (Riege, 2003.) Since replication logic for multiple cases cannot be used in a single case study, the focus was on comparing real life findings against theoretical constructions and the framework established in chapter 4.2.

Fourthly, reliability refers to dependability and repeatability of the results in similar conditions (Riege, 2003). This research focuses on issues relating to people and their behavior, which are not static by nature. Therefore it is unlikely that two researchers would get the exactly the same results. Furthermore, the main data

collection method was interviews, which produce information that can be regarded as sensitive information about the experiences of the interviewees. Thus, the overall situation and the identity adopted by the interviewee in the interview shapes the answers. In terms of reliability this emphasizes the need for transparency of the research process so that transferability of the study can be evaluated, i.e. whether the results would be similar in another environment. (Puusa & Juuti, 2011, 156.)

Table 8: Case study reliability and validity techniques applied

Design test	Techniques used in the study
Construct validity	Multiple sources of evidence Chain of evidence established Informants reviewing the report
Internal validity	Within-case analysis
External validity	Comparison of findings with other research and theory.
Reliability	Systematic description on how the study was conducted.

6 RESULTS

This chapter describes the empirical data of the research and the empirical findings are presented. Firstly, the formal organizational setup and definition of customer information are discussed. Then the chapter continues describing the results according to the main categories of the analysis.

In order to understand the premise for customer information utilization in the case organization and for the study, the formal structure according to the organizational chart was first inspected. The channels and departments chosen for the study and their relations with each other according to the organizational structure are described in Figure 8.

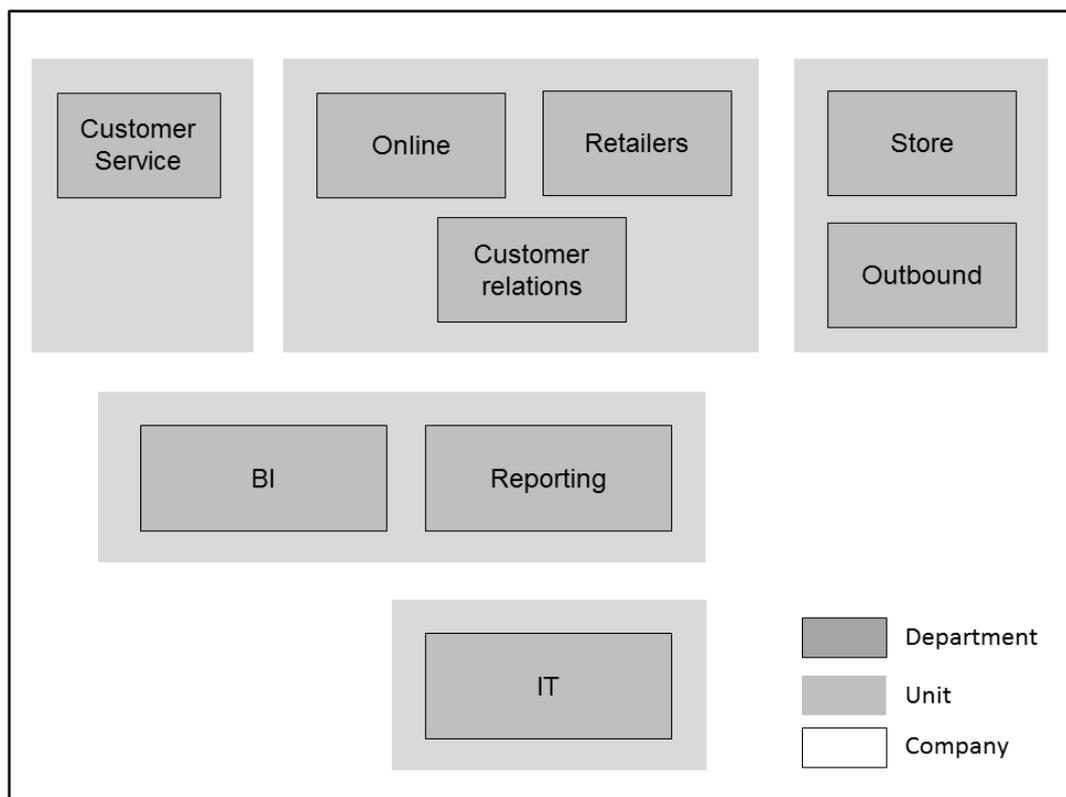


Figure 8: Formal organizational set-up

Sales channels and the main customer information reporting and analysis functions are all a department of their own. These departments are spread over four different units within the case company. For some the first common manager

in the organizational chart is the CEO of the company. Thus, the formal organizational structure sets distance between these channels and departments.

Typically for an organization that has a long history, from an IT system point of view, there are several back-end systems where customer data is stored.

In addition to the sales channels, departments with a tight connection to customer information were interviewed. Customer relations department is responsible for taking care of current customers especially in terms of up- and cross-sales and restraining churn. They do extensive analysis of the customer base and provide information to all sales channels. In addition, they strongly manage the work of telesales channel. Reporting does customer data integration and produces analysis and reports, for example sales and key performance indicator reports. Business Intelligence (BI) then produces analysis and studies such as competitor, market, customer and product insights. As one of the interviewees stated, reporting processes internal data, which is an output of external information about the conditions in the surrounding environment that BI then processes.

“It’s often good to look at internal and external information side by side as we can think that internal information is a result of the conditions in external information”

All these three departments, customer relations, reporting and BI, are key players in providing customer information and enabling utilization.

Already the first interviews reveal that the definition of customer information was not self-explanatory and had different meanings for the interviewees. This was indicated by what were regarded as information sources or for what kind of use customer information is first associated. In order to understand how interviewees understood customer information they were asked to define it in their own words. Customer information was defined loosely as “everything we know about the customer” or “all information that is available within privacy laws”. Opinions as to whether customer information includes only information that identifies the

customer varied. Some immediately included information such as customer behavior or satisfaction, which is collected anonymously and can be joined to groups or types of customers but not to a single customer, into customer information. It soon became quite obvious that there is no agreed common understanding of customer information but that individual understanding is formed by practical needs, daily work and it is first and foremost associated with customer interactions.

6.1 Information management

In the analysis the information management category was defined to include activities related to collecting, storing and analyzing customer data and thus the means provided to share relevant customer information. Information quality and availability as prerequisites for use of information and closely relating to data collection and storing were also included in this main category.

Collecting customer data was discussed in the interviews in order to identify how widely this activity is spread, what are the storing capabilities and what information can therefore be shared at all. The basis of customer data is the CRM systems used, which are common to all channels. These systems hold general information about a customer, in relation to the organization and transaction history. Recording this data is a prerequisite for the customer relationship and partly automated so collection of this data was not discussed deeply. The focus was on the additional data that sales channels collect.

Customer service, online, store and telesales channels gather additional data about customers although the reason and nature of the data varies channels by channel. Retail is the only channel that does not actively collect additional data.

Store and telesales are heavily sales oriented functions and the primary data collected is related to sales figures: what, how much and to whom. Store also has their own system to record certain sales. Another important piece of information is feedback concerning campaigns, which is again motivated by the sales targets.

“Everyone is measured by sales so if there are issues obstructing selling, it is very quickly brought up.”

Customer service and online channels clearly collect more data than other channels. They are capable of producing data by themselves with IT systems designed for these channels, which in addition are needed to operate the channels.

Customer service has a contact center system, which gives them a possibility to collect vast amount of quantitative data. Their main target is to maintain a desired service level so that the focus is on number of contacts and contact reasons: how many, when, and why. This data helps them to adjust resources accordingly for the service level. In addition, changes in CRM systems are tracked and ideas for improvement are collected.

Additionally, online channel has the possibility to collect a lot of data, both quantitative and qualitative. Although the focus is on sales targets and conversion, a great deal of customer behavior data is collected. Website analytics produces most of the data but also qualitative data through surveys and chat is gathered. The situation is such that not all data collection systems could be identified because in different projects there have been different systems in use.

BI and reporting are functions that serve the whole organization and their main task is to produce information. BI collects data related to customers, competitors, products, and markets to serve the business. Reporting relies on the data that exists in CRM systems and combines it in order to produce reports needed by business. Similarly customer relations work with the data from the CRM systems and do not explicitly collect data themselves.

What is common to the data outside general customer or transaction related data in CRM systems is that there is no specific storing place for it, neither within the departments nor within the organization.

“We have no such place where we would collect all the data together and we could process and analyze it.”

“We at least don’t have sound technical tools for it [storing the data]. In order to actually do it well. At the moment it [Excel-file] is probably also fairly heavy to work with.”

The data is generally stored in the specific system where it is collected, or in Excel-files or other presentation forms. Files and reports are typically stored in personal folders or in shared drives with limited access. BI has a portal in an organization’s Intranet where many of the studies are stored mainly as PowerPoint-presentations. The portal is open to everyone in the organization so that information is accessible for all. Yet the data is scattered across the organization and it cannot be, or is very difficult to combine system-wise.

In order to transform the data into information only online channel has their own dedicated analytics expert. Online data from website analytics is manifold and its meaning can be complex requiring special expertise for understanding.

“We have our own person for analyzing the data. He generates and summaries data into information that we can then analyze it.”

“Generally we should be more capable of understanding online analytics. There is lot of data, even too much, so what is the relevant data and how the data should be interpreted.”

Customer relations have also dedicated analytics experts but they were emphasized only to be for the department’s own purposes. It is noteworthy that the online and customer relations expert analysts are partners, not employed by the organization itself. Furthermore, in reporting and BI partners play an important role. One interviewee hoped to have a dedicated person for information management, who would also act as a link towards rest of the organization. A lack

of analytics know-how was recognized through the need to understand the data better. The interviewees shared the opinion that the business know-how and knowing the operative environment is crucial for understanding the data. Hence, dedicated persons or analytics expertise should also exist in the channels. Common reporting or analytics units cannot have all the business knowledge required nor have they resources to serve everyone.

“We should have a person who would be mainly dedicated to this kind of issues and would be the link to other units in the organization, who produce or want information from us.”

“Maybe we should understand this little bit more and interpreting the data is sometimes a bit difficult. We should learn more and develop the tools too.”

Table 9 summarizes data collection and storing data by each channel and department. Whether they have own analytics expert is mentioned in addition.

Table 9: Data collection, storing and analysis

Channel / Department	Data collection	Storing the data	Own analytics expert
Store	Customer and transaction data	Common CRM systems	No
	Transaction data	Own system	
	Campaign feedback	-	
Telesales	Customer and transaction data	Common CRM systems	No
	Campaign feedback	-	
Retail	Customer and transaction data	Common CRM systems	No
Online	Customer and transaction data	Common CRM systems	Yes (external)
	Quantitative and qualitative customer behavior data	In tools used for collecting data	
Customer service	Customer and transaction data	Common CRM systems	No
	Contact reasons, feedback	Contact Center system, Excel	
	Campaign feedback	-	
BI	Customer, competitor, market and product information	Reports and presentations, part of them available in intranet portal	Yes (internal and external)
Reporting	-	Reporting tools	Yes (internal and external)
Customer relations	-	Own database, reports and presentations	Yes (external)

Concerning data quality the interviewees mentioned that the quality is not always as good as it should, however they were mainly satisfied and very satisfied with the recent improvements.

“It [data quality] is never perfect but it is surprisingly good. In the big picture, I don’t see that as a problem.”

“All the time it [data quality] is going to better direction”

“We have been improving and all the time, nearly weekly basis there are improvements but you cannot trust everything.”

“We work with the numbers we get. We have to.”

However, on the contrary, two interviewees mentioned several times their concern over data quality and whether the reports and insights provided matched the needs of the recipients. They also felt that one main target is to constantly improve the quality and build trust against the reports. Data maintenance Especially was an issue of concern, which did not seem to be anyone’s responsibility within the organization. This was related to several CRM integrations in the organization’s history as well as system changes, which were mentioned by several interviewees. These changes always cause additional work with data integration and deficiencies in both quality and availability.

“Too often maintaining and cleaning of customer data isn’t paid attention.”

“Then, the data maintenance in the organization, we have certain parties who own the data but then the responsibility over data maintenance, it is challenging because we know what kind of maintenance is needed but we don’t have time to focus on that. We should have someone responsible over data maintenance in the organization.”

Generally information needed was regarded to be readily available.

Results show that customer data is collected widely in various places throughout the sales channels. Data collection is motivated by the targets set to each channel. At the same time the data is scattered and difficult to combine even for those who collect it as the data is stored in separate systems and files in different formats. Internal analytics experts are concentrated in two departments and from the rest only two have their own external experts. This indicates unequal distribution in analytical know-how and also that expertise in this area cannot be found inside the organization. Neither information quality nor availability was seen as overly problematic even though it was recognized that changes in CRM systems complicate information utilization.

6.2 Information distribution

Information sharing, interactions with channels and departments and issues relating to organizational structure were categorized under information distribution. This section aimed to identify information flows and inter-organizational interactions related to customer information.

To understand how customer information flows in the organization and to understand to what extent knowledge around it is shared, main sources of customer information were identified as well as forums for discussing customer information and whether or not channels share the information they possess to others.

Objectives for which customer information is mainly wanted can be divided into three cases: sales or service interactions with customers, targeting sales and marketing, and managing sales channels. In interactions with customers the main information sources were directly CRM systems or interfaces built on them. For the channels where interactions involve service or sales personnel the sources provided a single view for the customer in terms of data that is stored in CRM

systems. Exceptionally digital channels could not utilize this single view of a customer.

For the purposes of targeting sales and marketing the main source of information was the customer relations department. They analyze the customer base and provide sales recommendations for specific customer groups. This information was utilized in all sales channels although as a source it is manual and sometimes slow, as described by one interviewee.

The extent of information utilized in managing each channel varied according to channels. The common sources for all were reporting and BI however channels typically utilized actively information collected by themselves for the purpose of achieving their own targets. Relations between BI, reporting, customer relations and each sales channel are described in Figure 9. It is shown that all three have established a relationship with all sales channels although BI and telesales usually communicate through customer relations, which has a strong managing relationship to telesales channel.

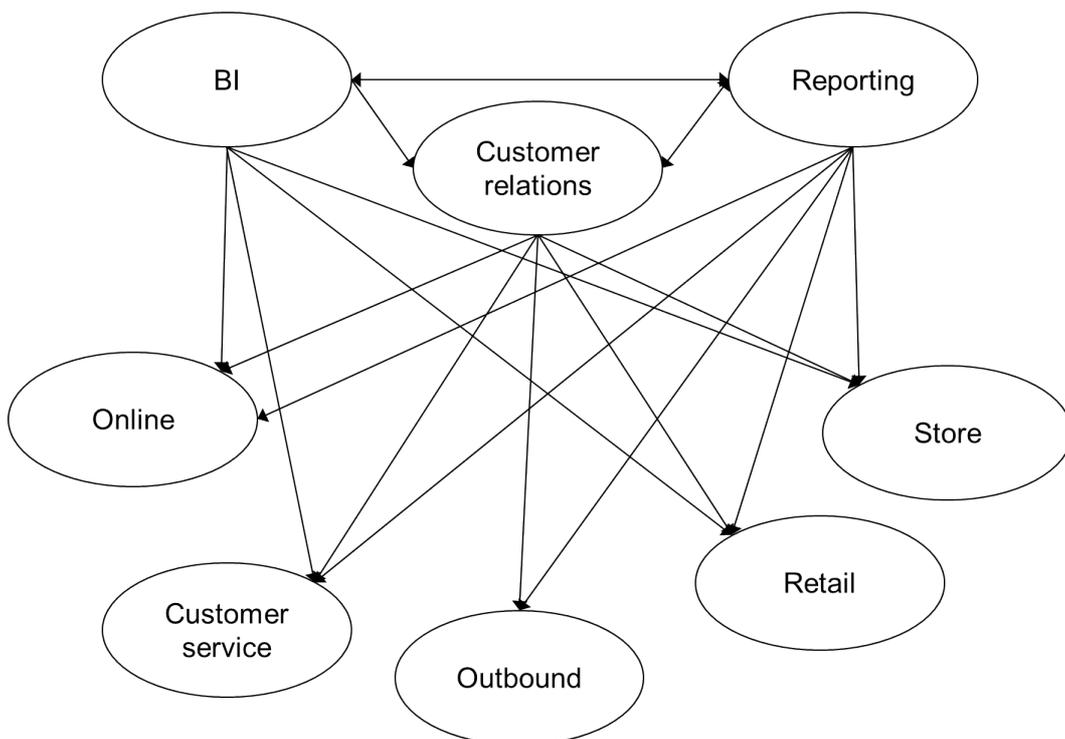


Figure 9: Main information providers and sales channels

Sharing customer information to others was considered to take place but it appears to be mainly by pushing the information. The sender seemed to be responsible for sharing the information and letting other to know what kind of information is available.

“[Information is shared] to for some selected persons. Actually, it has been the way that when someone wakes up and asks something, we add people to the delivery list.”

“Well, I have been pushing it [information] to the organization. No one has ever asked for it but I have been sending our reports proactively with quite large delivery.”

“When we do profiles or analysis, the outcome goes with whatever delivery. Which is required.”

Expect for BI and reporting, all others share the information outside their department to persons that either were considered to need it or to persons requesting it. The decision to share the information was at the sender's side.

The most common way of sharing customer information was through email. Information is stored in Excel, PowerPoint or other reporting and presentation formats, which then are distributed by email. BI and reporting provide, for part of the information they collect, a shared place where anyone can look for the information and utilize it when and where needed. Reporting was the only department having a reporting tool, which includes a user interface where different kinds of dashboards can be built and shared with users. These dashboards have been warmly welcomed amongst businesses making information available fast and easy. BI instead has a portal in the organization's intranet where many of the studies are stored mainly as PowerPoint presentations. The portal is open to everyone in the organization and therefore information is accessible for all.

It remained unclear which are the specific forums for customer information and utilization discussion, at least across channels. Interviewees named both internal, within their department, and external forums, but there was no one single forum that all the participants mentioned. It seemed that the concept of discussing customer information and its utilization was obscure although it does take place to some extent at least. Good experiences of common forums usually between no more than two parties were triggered by improvement needs.

“No one has started a forum where with multiple channel present, store and online sales and brand marketing, and online marketing and others, cross-utilizing customer information would be discussed.”

“We aren’t very good at, if you think about store or retail or online at all, we don’t have easy forums for information exchange.”

“We don’t have natural forums for exchanging information or ways to processes it. It is probably because we simply haven’t had the data earlier.”

Some interviewees thought that there were no forums for discussion over customer information because of lack of technical capabilities for information utilization. In other words, as the technical capabilities are missing, there is no reason for discussion.

However, some interviewees brought up the importance of informal meetings in the hallways or break rooms. When analysts sit on the same floor with business, the experience was that communication and cooperation is easier and information flows better. Informal interactions were said to be especially good for promoting the information that is available. In addition, meetings where customer information could be discussed across departments were found to be full of other issues and lack of time hindered the discussion.

Interviewees representing sales channels were asked to describe their cooperation and relation with other channels. Figure 10 describes these relations.

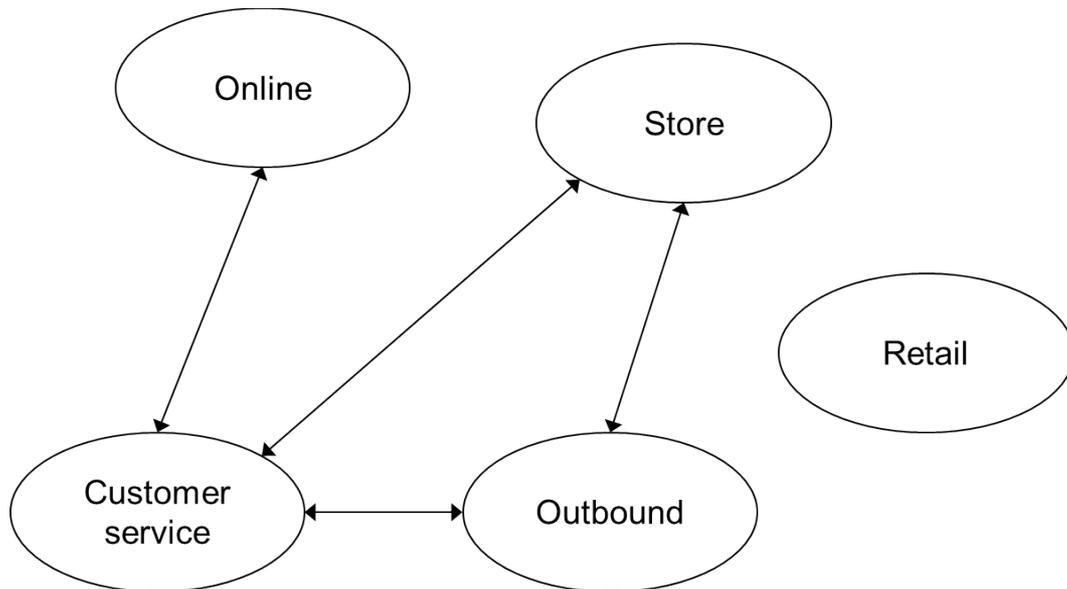


Figure 10: Relations between sales channels

As can be seen cooperation is mainly fairly vague. Online has the strongest relations with customer service. Store on other hand has the strongest relationship with telesales. Customer service and telesales occasionally share resources meaning they actively cooperate. Retail is isolated and so does not have active cooperation with other channels. However, given that they are external and not exclusive retailers this is apprehensible situation. Concerning the other channels, two interviewees said that the relation between channels is even competitive.

“Brutally said, all are separate, unconnected [channels], who at worst compete with each other.”

“Everyone has their own targets to work for. Target setting determines to some extent how much optimizing of own channel takes place and its performance optimizing and even at the cost of another channel.”

While reflecting information sharing and cooperation across channels interviewees brought up issues relating to the organizational structure. Organization is built on silos and therefore responsibility issues came up. Interviewees were pondering whose responsibility it is to innovate new ways of using customer information.

“Organizational structure and working mode haven’t supported it, actually any kind of strategic information system development, information integration, leading by knowledge or issues related to this.”

“Biggest challenges are, strategically, that the organization has been build in silos.”

Information sharing takes place in the organization and the common customer information sources are well utilized by all channels. However, the information collected and possessed by the channels is not shared very well. The owner of the information holds the power and decides with whom to share it. Information is usually shared by email, which also makes it more difficult to ensure common understanding of the meaning of that particular information. In addition, information tends to get lost in emails and is hard to locate if needed later. Furthermore, the awareness of what information other channels have is insufficient and therefore how it could benefit others is insufficient as well.

The organizational structure or formal interaction forums don't sufficiently support information distribution and interviewees emphasized the importance of informal meetings and discussions.

6.3 Analytical decision-making

The last main category was defined to include issues related to data-oriented activities that can or should be influenced by customer information such as customer interactions, channel management and development. Analytical decision-making refers to decisions and activities influenced by information. How interviewees define customer information and their targets was reflected in their answers, for example, how they evaluate other channels in terms of customer information utilization.

Based on the interviews activities guided by customer information can be divided into three main areas: sales or service interactions with customers, targeting sales and marketing, and managing sales channels. In customer interactions use of customer information is very obvious and enables better service to the customer. Yet the main focus in the interviews was use of customer information in targeting sales and marketing activities whilst channel management gained less attention.

“[Customer service utilization] is inadequate and light. Today mainly marketing campaigns are planned with the help of analytics”

“In my opinion it [customer information] isn’t utilized hardly at all at the moment.”

“If I think about what comes from rest of the organization, that influences us indirectly or directly, then quite a little issues are argued based on customer information.”

Customer information utilization in customer interactions was strongest in channels where interaction involved human contact. Or at least in these cases the possibility to utilize information was better than in purely digital interactions. Data-orientation in customer interactions can be for example recommending products based on information available about the customer. New software used by personnel acting in the customer interface had improved the situation remarkably and was praised by the interviewees. However, in digital interactions technical restrictions and fragmented IT infrastructure limited the possibilities to utilize customer information. All in all, interviewees said that there would more possibilities in all channels to utilize customer information in customer interactions if data integration would allow it. As mentioned earlier, for example, there is no proper storing place for data collected by the channels, which would enable data integration.

“Technology choices are essential. One should be able to look far enough so that the technologies chosen serve business strategy for longer period of time.”

“Technology choices are actually very important in order to maintain continuity.”

“System-wise information doesn’t flow from one place to another. Even if we as people, business and directors would like to utilize the data, it doesn’t flow.”

If sales targets were considered to motivate collecting feedback, they also motivate action. Clearly driven by targets set to departments and channels, the main focus in customer information utilization was in targeting campaigns and offering them to a right group of customers.

Channels which had different focus in their targets also considered utilization from a different point of view. In customer service and online serving the customer and utilizing information for better customer service was also considered, but from different points of view. As customer service thought about service level and operational efficiency, online focused more on customer service and experience.

“We aim at managing our channels to do those things that are correct from our point of view”

“What we are able to utilize well, we know how to predict how a customer moves, when, how many and why. But the rest doesn’t have direct impact to our operative work and then there is not much time to pay attention to such information.”

“No one thinks about the big picture. Everyone thinks how I’m going to utilize this in this specific channel.”

Concerning channel management it seemed that activities relating to sales and utilizing customer information in favor of sales was considered to be the same as channel management. Only one channel said to use customer information for development activities such as improving information provided to customers, new features or prioritizing development actions. The results from these activities were successful. Overall, interviewees considered customer information utilization fairly weak in channel management and in decision-making. Derived from target setting, information was considered fragmented and siled across the organization. Furthermore, it was recognized that everyone had their own interest towards the information and motivation to utilize it for their own benefit. Sometimes channels criticized each other for not utilizing customer information but it appeared that they did not know how other channels are utilizing customer information, as the objectives were in some cases very different.

“We are probably the only department who is able to genuinely look at the data and make decisions based on that.”

“I think that store doesn’t utilize it at all or I just don’t know it.”

“We have now improved with databases and analyzes. But we are not yet in the situation that it would have been implemented as a part of channel management. The data doesn’t exist in daily management. Or at very good level at least in all channels.”

As described earlier customer information collected by channels is shared to some extent but the activities remain the receiver’s responsibility. Although a good example of working feedback-correct actions are feedback concerning campaigns or product changes, customer reactions are fast-forwarded and necessary adjustments done. The motivation for this is clear as well as the benefits for the organization; improve overall service and decrease contacts or increase sales through better-targeted campaign. In cases where benefits are not as obvious, actions remain the receiver’s responsibility.

Many of the interviewees raised a concern over relevant information. They couldn't be sure whether or not they were looking at the appropriate information. In addition lack of time was seen as a major problem for better utilization, as the amount of information is so huge. Two interviewees mentioned their good experiences in learning with the team with the help of an expert. However, they also raised the issue of insufficient analytical skills in the organization. Understanding the data, along with the ability to combine and pick the right information, raised uncertainty and worry.

“But then it is important that we pick the right data and utilize relevant data instead of sticking in small potatoes.”

“At the moment we rely a lot in what the tools itself generate...but is it relevant to us?”

“It is clear that there will be more information than we are able to, know how to or understand to utilize.”

The departments providing customer information mentioned that they in particular have to promote the information they offer and encourage others to utilize it. The departments book meetings with relevant business functions in order to go through the most important reports and to also process the information and find ways to utilize it. These departments also trained business to use the reports and the information available.

Interestingly few interviewees brought up concerns that unless the organization is capable of utilizing the current information available, how could they proceed into more complicated formats of data management. Furthermore, the organization's capability to commercialize the data and know-how of which pieces of data should be combined. Interviewees brought up the need for better tools for anyone to investigate the data and to innovate across formal organizational structures possibilities to utilize customer information, as it is not a matter of lack of data.

One of the challenges is that there is no common strategic intent for utilizing customer information and there are many interests towards it.

“I guess the biggest challenge is that this is widely spread, many have interest towards it, many collect it but does anyone have understanding what is the common strategic intent of what we do with customer information, so maybe lack of this information. Why it is important to share customer information, why it is important to act based on what someone else is saying.”

“Who owns the use of information or who should take the responsibility for it the most? People may think that, some think, that some party should offer the information and possibilities ready.”

“Understanding to ask for analyses and reports and data should be where the decisions are made.”

Data-oriented actions require familiarizing oneself with the information. Time is a scarce resource but the pressure for information utilization grows and worry about responsibilities grows. Concerns over the lack of time and priorities for using time to learn and go through the information were raised many times by the interviewees. This results in a reactive mode and, for example, time for proactively finding new ways of utilizing customer information is very limited.

Leading through customer information will cause changes in management in the future. Customer information will be brought intentionally into strategic decisions and leaders need to be able to adjust their thinking based on data. However, leading is and will be a combination of data-orientation and risk taking. The relationship will depend, amongst other things, on the organization, its' capabilities, and the industry the company operates in.

Activities in customer interactions are guided by information to the extent technology enable them. There is room for improvement but a higher degree of

data integration would be required. Targeting sales and marketing activities are mostly done based on analytics and actions are data-oriented. Channel management or development decisions are vaguely argued based on customer information. Channels use information to optimize their own actions and to achieve targets. Silos in the organizational structure can also be seen in analytical decision-making. The receiver of the information decides whether or not to act based on the benefits for their own channel. Furthermore, data-orientation in decision-making varies across channels. Missing practices for information utilization appear as uncertainty if information processed is correct and relevant due to the amount of information being so vast. Lack of time and priorities prevent thorough studying of the information and proactive actions.

7 CONCLUSIONS

In this chapter empirical findings are drawn together and research questions set in the introduction answered. After summarizing the conclusions, managerial implications are presented. In addition, limitations of the study are reviewed and suggestions for future research given.

The first sub-research question was: “*What are the main issues affecting information utilization?*” This question is answered based on theory, and its meaning was to obtain a theoretical understanding for information utilization in general on the basis of previous research. The answer to the question can be found from the theoretical framework for use of information described in chapter 4.2 and more precisely in Figure 6.

According to Popovic et al (2012) technology choices and IT solutions lay the foundation for information use. This applies especially to multichannel organizations where integrating data from all channels is a crucial success factor (Zhang et al 2010; Neslin et al 2006). Technology solutions offer both integration of data and data analysis enabling use and distribution of relevant information. Relating to IT solutions is information quality. How relevant and trustworthy is the information that an IT infrastructure offers? And is that information easily accessible? The literature disagreed as to whether information content or access quality is more important for use of information. However, both have an importance and need to be addressed.

The literature argues that organizational aspects have the most profound effect on the use of information (Campbell 2003; Salojärvi et al 2010; Garrido-Moreno & Padilla-Mlendéz 2011). Structure, culture, and the skills that the organization holds define in many ways its' capabilities to distribute and utilize information (De Long & Fahey 2000; Xu & Walton 2005). The decision to pick, process and apply information lies in people who act based on personal and organizational habits, practices and attitudes.

Organizational structure indirectly affects to information utilization. It defines largely social interactions and therefore influences information distribution, which again affects the ability to utilize information (Zhang et al 2010; Chen & Huang 2007). Instead, organizational culture has a major effect directly on information utilization. It can either hinder or promote it. Attitudes against knowledge display how high and what kind of information is appreciated, for example, in decision-making processes. Furthermore, culture can either prevent or encourage social interactions where information is shared. (De Long & Fahey 2000; Chen & Huang 2007; Popovic et al 2012.)

Relevant data and willingness to use information can yet be nullified by lack of analytical skills (Shah et al 2012; Davenport et al 2001). Decision-makers need sufficient understanding of data in order to pick relevant information for each decision and to see new business opportunities.

To summarize the answer to the first sub question, based on literature and previous research information, utilization is affected by technology solutions, information content and access quality, organizational structure, culture, and analytical skills an organization has.

The second sub-research question, "*What are the main sources of customer information?*" aimed to identify the main information sources used in order to learn how widely available sources are used and for the next sub question, what information can be shared.

The main customer information sources were CRM systems, customer relations and reporting functions. In addition, reports and insights from BI and the data collected by the sales channels themselves were important sources. Thus, there are four common sources for customer information used by all channels but the content of the fifth source, data collected by the channels themselves, varies. Data collection in the sales channels was driven by targets such as sales or service level, or by their capability to collect data. The case organization is able to collect data about its' customers but the problems lay within organizing the data and

making sense of it. This problem is widely recognized by literature and for example Brynjolfsson et al (2013) agree that data collection is no longer the problem anymore but the ability to analyze it, is.

Customer information sources focus on information about the customer and it is mainly used for providing the right offering for groups of customers. Information from customers consists of reactive feedback from customers and their response to sales offers. The latter was emphasized and motivated by sales targets. The results show that information from and for a customer is less discussed as a source of customer information, especially for the purpose of creating value for the customer. Strongly emphasized sales aspect mainly aims at creating value to the company.

For the use of customer information it is problematic that there is no common place or format for storing the information. This makes customer information sources scattered and more difficult to locate. IT solutions do not support storing manifold information, which again makes it more difficult to analyze and distribute it. As suggested by O'Reilly (1982), Choo (1996) and Shah et al (2012) social and economic costs matter for use of information. Information sources with easier access are preferred. Limited time resources occurred several times in the results and information is easily discarded if the costs are too high. In the more data-oriented channels information was used even though it was stated that the source could not always be trusted. This is supported by the results of Popovic et al (2010), who argue that when the analytical decision-making culture is strong enough, information is used despite of its content quality.

Summarizing the answer to the second sub question, the main customer information sources are CRM systems and customer relations, BI and reporting functionalities. Data collected by the sales channels themselves is in critical role but it functions mainly as a source for the channel that has collected it, and not to others. All in all, sources are siloed and fragmented across the organization.

The third sub-question “*How customer information is shared between sales channels?*” aimed to identify information flows between sales channels and hence the scope of cooperation in terms of customer information.

Empirical findings showed some controversial results about forums for discussing customer information or its utilization. On the other hand these forums exist mainly within departments or between two or three departments and specific topics such as targeting sales and marketing are discussed. But then customer information naturally relates to many forums where operative issues are processed although it is not the main topic of the meeting. Yet many interviewees said that there are no forums for discussing customer information and its utilization specifically between sales channels. Thus, customer information is actively part of discussions but the point of view is limited and synergies between channels do not occur.

Derived from the situation that there is no common storing place for the data that is collected in the sales channels, the basis for information sharing is not optimal. Results showed that each channel collects data for their own purposes and the collector decides where the information is distributed. The list of receivers can either be very narrow or on the contrary very large. In the first situation the information is available only for a limited number of people, which can also be good if it is known that no one else needs the information. In the latter situation the list of receivers most likely contains receivers that are not interested about all the information sent and when this is repeated the content is eventually not even checked. Another problematic issue is that most typically the information is shared in e-mails. Information tends to get lost in e-mails and it is more difficult for the receiver to come back to it when the information is needed for decisions or actions.

If forums for discussing customer information and its utilization or shared understanding of the reasons for utilization do not exist, it is very hard to know who needs the information. This places a level of responsibility to the receiver to ask for information, assuming that he or she knows that the information exists and where to ask for it. In other words, the organization faces the major challenge described

by Bose & Sugumaran (2003): to be able to transfer knowledge from its collection point to the point of use, where it is needed, and where it should be used. Furthermore, pushing the information leaves the responsibility of understanding the information to the receiver as well as decision to act based on it. As it is known that knowledge emerges in social interactions, the possibility to find new meanings for the information is missed.

Decentralized and siled organizational structure and targets, as typical for a multichannel organization, were experienced to be an obstacle for information sharing and cooperation between sales channels. Hence, it affects the scope of information used. As indicated by the empirical findings, channels can use the information fairly well but only the information they collect themselves or that what is available from common sources. This point of view ignores the information that other channels have and synergy possibilities are most likely lost. Importance of informal interactions as a way to share and promote information was brought up but by departments providing customer information to sales channels. They have a clear motivation to invest in it as their work gets the meaning through the use of the information they provide.

The answer to the third sub question could be summarized as follows. Information sharing exists but practices for it are not very clear. Independently operating sales channels push the information to others and understanding and acting based on this information is the receiver's responsibility. Possibilities for finding new meanings and ways to utilize information are lost unless cross-channel interactions take place.

The fourth sub-research question discussed the use of customer information: *"How is customer information utilized in channel management?"* The topic was discussed through decision-making and data-oriented activities.

Customer information is utilized for three main purposes: sales or service interactions, targeting sales and marketing, and channel management. Using customer specific information in sales or service situations where human

connection is present, IT supports utilizing the information well. On the other hand, technology prevents utilizing customer information fully in digital services. Fragmented IT infrastructure diminishes the maturity of business intelligence systems as described by Popovic et al (2010) and therefore data integration and analytical capabilities do not reach sufficient levels.

Deficiencies in technological capabilities are also being used as an explanation for not having cross-channel discussion forums for customer information utilization. This can be dangerous because implementing practices for information sharing and cooperative knowledge generation requires time and investments. If this is only addressed when technology has been fixed then a return on IT investments are postponed.

Targeting sales and marketing gained the most attention and the benefits were the most obvious in these activities. Customer information utilization was lower in development activities. Customer information was not often one of the arguments for decision-making. If organizational culture does not support data-oriented decision-making, it is natural that people rely more on intuition and arguments based on data are not provided or asked for. The results indicate that organizational culture does not sufficiently support analytical decision-making. The results also indicate that the perspective on customer information utilization is narrow and focused on selling more products as Saarijärvi et al (2013) point out. The next step in CRM development towards service-orientation could not yet be seen.

Customer information utilization was characterized by the overwhelming feeling of a large data amount and insecurity over what is relevant data. The literature recognizes the challenges related to identifying relevant data (Verhoef et al 2010; Shah et al 2012). It can indicate a lack of analysis skills in the organization, which is supported by the empirical results. Analytical know-how was concentrated and only two sales channels had their own analytics expert. Question that arose were that unless the current information cannot be utilized well, then how can increased amounts of information be successfully utilized at the time when technology allows

it. Only good data combined with analytical skills can lead to good decisions (Shah et al 2012).

In brief, the answer to the fourth sub question is that utilization of customer information is mainly limited to sales and marketing activities. Other aspects get less attention. A major challenge affecting utilization is the capability to pick the relevant information from the large amount available.

Based on the empirical findings and answers to the sub-research questions, the main research question, "*What are the main obstacles for utilizing customer information across multiple sales channels?*" can be answered. The results suggest that the need for efficient customer information utilization throughout multiple sales channels challenges organization's structures, processes, resources, capabilities and culture.

According to the results the siloed, decentralized organizational structure impacts negatively on information distribution between functions and the importance of informal social interactions is emphasized. This is supported by Zhang et al (2010) who argue that organizational structure is one of the main obstacles for exploiting fully cross-functional synergies especially in multichannel organizations. Decentralized organizational structure and target setting supporting it has caused a situation where no shared understanding of customer information exists but there is internal competition between channels. Information sharing does exist but information is not well organized or visible. The collector of the data acts as a gatekeeper for the information.

Customer competence accumulates from the knowledge generated in information processes and integrating the information across the organization is a critical part of the process (Campbell 2003). Hence, a major obstacle for utilizing customer information in order to create customer competence is the lack of having a common goal for information utilization. This combined with what kind of data to focus on should come from the strategy (Davenport et al 2001). It should also explain why it is important to share information and act based on information

provided by other sales channels. Varying definitions of customer information reveal different understandings and how differently customer information is appreciated. This can narrow the point of view for utilization, which is now focused on sales and marketing activities. Customer information is a mixture of transaction data and “human data” that has been gathered in customer interactions. CRM processes like to offer the right products and send targeted marketing rely mainly on transaction data. A competitive customer experience requires also human data. By reconfiguring use of customer data companies can enhance customer loyalty, differentiation, company values and image. Customer data should not be seen only as an input to the company’s processes. Instead, service orientation moves the attention towards data as an input resource for the customer. (Saarijärvi et al 2013.)

Related to resources and capabilities a lack of analytical skills creates one of the main obstacles. This appears as an insecurity as to what is relevant information. Furthermore, analytical skills would help the organization to understand the information better. Hiring analytical experts only to reporting, BI or IT cannot solve the problem. A valuable analysis requires business understanding, and thus, business needs sufficient analysis skills as suggested by Davenport et al (2001). Improved analytical skills increase confidence on looking at relevant data, which again affects positively on information utilization in decision-making enabling better and faster decisions.

Deficiencies in technological capabilities also create challenges for customer information utilization. Maturity of BI systems isn’t yet high enough. Due to this all channels do not have equal access to customer information and a single view of a customer. Lack of common storing place for all the data that is collected throughout the channels does not support the visibility of information and decreases the possibilities for utilization and generation of new knowledge. Hence, consistent and long-term technology choices are especially important in multichannel environment where forming a unified view of the customer available to all channels is a critical issue for serving the customer in consistent and coordinated way. Collection of data in all channels is the starting point and next

steps are linking the data together and analyzing it in a holistic way (Zhang et al 2010). The outward flow of information as presented by Zhang et al (2010) is especially inhibiting the capability to analyze, find and share relevant information. This relates to the information management CRM process, which according to Payne and Frow (2005) provides the means to collect and share customer information. Hence, technology creates challenges when forming a multichannel strategy as stated by Zhang et al (2010).

Organizational culture is reflected in values, habits and practices. It affects the position of the customer, level of analytical decision-making and willingness to share and adopt information. The results imply that analytical decision-making culture is lower making culture one of the obstacles for efficient customer information utilization. It is important to understand that information has the possibility to influence a receiver's thinking and change behavior, but that this requires acknowledging that creating new knowledge is important (Davenport & Prusak 1998, 3-5,67). Data does not always support one's own assumptions or opinions. Organizational culture must support analytical decision-making and people must be willing to adopt new information and apply it in their actions.

Yet the influence of organizational structure, analytical skills and missing CKM practices were clearly emphasized in the empirical findings and culture gained less attention. This may be because of the obscure nature of culture. A study by De Long & Fahey (2000) revealed that most managers recognize the importance of culture but they find it difficult or impossible to articulate culture-knowledge relationships in ways that lead to action. Furthermore, the decision-making process itself is often invisible within the minds of managers. It is difficult to understand, document or improve.

When the findings are reflected against the theoretical framework set for this study similarities can be found. Obstacles for utilizing customer information across multiple sales channels can be placed in the framework of use of information. Technology choices are important but organizational structure and analytical skills could be regarded even more important.

From a CKM perspective the critical implication would become through business strategy, target setting, and a common understanding of customer information utilization formed in the CRM processes. Attitudes, processes, and reward systems can hinder applying CKM and building a customer-oriented organization (Garcia-Murillo & Annabi 2002). Results showed that targets define the collection of data, willingness to share information, and utilization of information. In other words, it could be more accurate to say that targets define prioritization. Time is scarce and it is used to achieve the set targets.

By implementing CKM practices common understanding of customer information could be created and thus ensure that the whole organization is aware of the reasons for the importance of customer information. As pointed out by the interviewees there is a need to understand information better and be able to combine and commercialize it in the future. What emerges from the myriad of corporate experiences is that knowledge management does not require new or better tools to gather more data and information but rather it requires new perspectives to link the pieces of information, or in other words, to create knowledge. (Gupta et al 2000.) Knowledge management practices are needed in order to identify and distribute knowledge in an organization and thus improve competitiveness (von Krogh 1998).

Based on the empirical results of the study four main obstacles for utilizing customer information across multiple sales channels can be identified. Firstly, the organizational structure doesn't support sufficiently cross-functional cooperation and information exchange. Secondly, lack of CKM practices providing a common goal and extending the process perspective towards creating customer value inhibit utilization. Third problem is to locate the relevant information and make sense out of it. Improvements in analytical skills would improve capabilities to utilize customer information in decision-making. Fourth main obstacle relates to IT capabilities and infrastructure where maturity of BI systems should be improved in order to make information more visible and better organized for utilization.

Improvements in utilization of customer information require new practices in the organization but the benefits for them are not proofed or obvious for people, even when literature and media may say so. Therefore, it is a passive problem where no one actually knows the extent of the problem.

7.1 Managerial implications

This study identified four main obstacles for utilizing customer information efficiently across multiple sales channels: 1) decentralized organizational structure, 2) lack of CKM practices, 3) insufficient analytical capabilities, and 4) technological deficiencies decreasing the maturity of BI systems. Nonetheless, true competitive advantage does not come from the technological solutions or architecture itself but from the knowledge embedded in humans that decide what to do with that technology. Results of this study yet emphasize this notion and suggests that more attention should be put to organizational aspects when discussing customer information utilization and creating customer competence. Thus the managerial implications mentioned here emphasize organizational aspects instead of technology.

It is recommended that CKM practices would be applied in order to go beyond CRM's narrow aim to customize every interaction into customer understanding. In order to create customer competence, organizations must be able to go beyond a sales perspective and customer information cannot be solely used for the benefit of the company. By applying the theoretical framework of CKM presented in Figure 5 organizations could enforce customer information utilization and create customer competence. Knowledge management practices can solve the problems of finding relevant data and innovate new ways of using it by giving the data a meaning and thus support decision-making (Rowley 2004). Furthermore, by actively implementing the basic knowledge management processes, creation, storing, transferring, and applying, information utilization would become embedded in organizational culture and its practices and values.

As the decentralized organizational structure acts as an obstacle for cross-channel cooperation and information sharing, it would be recommended to create informal structure on top of formal organizational structure, which would include cross-functional networks and groups as suggested by Chen & Huang (2007). Less formalized and cooperative structure would promote information sharing and forming of a common understanding in a multichannel organization. However, implementing informal structure on top of formal structure requires lot of attention from management as the formal one has a strong effect and thus is easy to hide behind it. Here common targets and knowledge culture can be helpful. Creating and reinforcing a culture that values data-oriented decision-making is an ongoing and highly challenging task (Davenport et al 2001) and requires both attention and investments.

The third recommendation is to invest in analytical skills. Analytics experts should be internal and spread to the critical data collection and utilization points across the organization. This way analytical skills and business understanding are closer to each other and sufficient resources for each department can be ensured. Combining this with virtual networks linking both analytics and business experts throughout the organization, information distribution is supported and new and versatile meanings for the information can be found. Combining the specialized business and customer knowledge serves also customers better as they see the company as a whole and not as business units where the specialized knowledge lies.

7.1 Theoretical contributions

This study supports the current theory of use of information but extends it in the direction of multichannel organizations. Known issues affecting use of information appeared also in the results of this study. As shown by the current literature on multichannel customer management, the meaning of technology is essential in order to create prerequisites for utilization. However, the results of this study emphasize the meaning of organizational structure and analytical capabilities. Major obstacles stem from decentralized structure and management as well as

from the ability to understand the data better. In the case of utilizing customer information across multiple sales channels it is suggested that the meaning of setting a common goal and shared understanding should be highlighted as it strongly affects the motivations for information distribution and utilization strongly. This finding emphasizes the need to implement CKM practices in a multichannel organization wanting to become customer-centric and create customer competence. The CKM framework presented in chapter 4.2 could be developed further to a theoretical framework for holistic customer knowledge management in a multichannel organization.

7.2 Research limitations and future research

Limitations of this study concern the ability to generalize the results as the study included only a single case and the number of interviews was not very high. However, the study was explanatory in nature trying to identify obstacles for utilizing customer information across multiple sales channels. This goal was reached and understanding around the research topic was increased.

In future research, knowledge about the obstacles could be extended by accomplishing a quantitative research covering the whole organization. This would give better results about the overall situation in the organization and for example the level of knowledge culture and its effect on customer information utilization, which in study couldn't be evaluated thoroughly. Research in this area could also be extended to cover multiple case organizations in different situations. This could verify theoretical implications suggested by this study. Furthermore, a model for improving customer information utilization in multichannel organizations could be formed.

Fast technological developments have made companies focus on IT solutions and collecting of customer data. Nevertheless, data collected has never been efficiently used. At the same time consumers require seamless service across channels in which they interact with the company. Yet today, consistent service across all channels already gives a strong market advantage to the company

(Bose & Sugumaran 2003). However, managers also need competence to turn customer information into knowledge in order to guide the development and to make smart guesses of what customers want in the future and what their future needs may be.

This study identified main obstacles for utilizing customer information efficiently across multiple sales channels in order to create customer competence. Organizational structures, analytical skills and capabilities have not developed with the same speed as the ability to collect data. Changing the focus from technology to people and processes and by implementing CKM practices, an organization can improve its capability to utilize customer information and thus create a competitive advantage. Balanced interplay between technology, processes and people define the success in creating customer competence.

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APPENDIXES

Appendix 1: Interview questions

Responsibilities and targets

- Describe your current responsibilities
- What are the most important targets set to you and the sales channel?
- How do you see the role of this channel in relation to other sales channels?

Definition of customer information

- How would you define customer information?

Collecting and analyzing customer information

- Does this sales channel collect customer data?
- What are sources of customer information you have available?
- What kind of customer information you receive?
- Does the quality of customer information match your expectations?
- Is customer information needed easily available?

Customer information flows and knowledge sharing

- From whom you receive customer information?
- Does the channel actively share customer information?
- In which forums that you take part in, customer information and its utilizations is discussed?

Customer information and decision making

- How customer information influences your work?
- Does it support your decision-making? If yes, how?

Customer information and channel management

- How is customer information affecting channel management?

- Are there set targets for utilizing customer information?
- How would you evaluate customer information utilization generally in the organization and in other sales channels?

Closure

- How customer information will affect in leadership and management in the future?
- Do you have something else in mind related to the topic?