CUSTOMER INFORMATION USAGE AND ITS EFFECT ON SELLER COMPANY'S CUSTOMER PERFORMANCE IN BUSINESS-TO-BUSINESS MARKETS – AN EMPIRICAL STUDY

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Juuka, in mid-summer 2008,

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1 INTRODUCTION

How do companies use customer-specific information (customer information) they possess about their current business customers? Does using customer information improve the seller company's customer performance? What is the role of Customer Relationship Management (CRM) in customer information usage? This marketing dissertation research seeks answers to these questions from the business-to-business company's point of view.

1.1 Collecting vs. using customer information

A company's ability to manage its customer information is key to sustaining a competitive advantage in any industry (Hogan, Lemon & Rust 2002). Companies often generate vast amounts of customer information but unless this information is put to use, very little is accomplished (e.g. Kohli & Jaworksi 1990; Davenport 1998). Many researchers argue that an effective, or even sufficient, use of customer information residing in a company in the context of marketing and sales decisions is still at the early stages in many companies (Bose & Sugumaran 2003; Pass, Evans & Schlacter 2004; Morgan, Mittal & Anderson 2005; Jayachandran, Sharma, Kaufman & Raman 2005). Researchers also argue that companies focus more on collecting and storing customer information than on improving and investing its quality and usability of it (Hu et al. 1998; Day 2003; Zahay & Griffin 2004).

"Customer Champions in 2001" a study by Satmetrix, found that, of 95% of companies surveyed about the customer feedback they collected, 30% used insights gained from this information, but only 10% deploy and improve their offerings based on customer feedback information (Owen 2006). Approximately half of the large companies that Forrester Research surveyed in 2000 reported that they are not planning to use customer information in designing or implementing new marketing or customer service processes. Ninety percent of the companies stated that they are not using customer information in new product development either (Lesser, Mundel & Wiecha 2000). The following quote from the pilot study conducted for this research illustrates the reality of customer information usage in many companies: *"We would have more information on our customers, but we are not very good at*

using it… I mean that we are not using customer information and resources we already have…everybody tries to reinvent the wheel again."

Marketing intelligence involves gathering data about the market including customers and competitors from various sources and sharing it within an organization. This process has long been regarded as a critical dimension of the market orientation philosophy of a firm, which has been viewed as a key concept in marketing (Kohli & Jaworski 1990; Slater & Narver 1995). Academic research on market orientation has focused on the definition, measurement, impact of a market orientation to a company's performance, and the organizational drivers behind market-oriented behavior (Kohli & Jaworski 1990; Slater & Narver 1995; Jaworski & Kohli 1996). However, the extensive attention that CRM and KM have gained during the past decade has brought the dynamics between managing customer information and customer relationships into focus in a new way (Rollins & Halinen 2005). Rollins and Halinen (2005) propose that market orientation should not be viewed just as a measurable characteristic of a company — a state of being market-oriented — but a dynamic process that is continuously created and re-created within an organization and at the customer interface.

Helfert, Ritter, and Walter (2002) argue that market orientation philosophy is severely limited when viewed from a relationship marketing perspective. In many industries, particularly in business-to-business markets, there are no general markets towards, which a company can be oriented, but rather only individual customers with their individual requirements. Relationship marketing efforts, such as maintaining and nurturing profitable business relationships, require a more complex stream of information about and from a specific customer than does product or transaction-driven marketing (Sisodia & Wolfe 2000). Therefore, continually updated customer-specific information is critical at the different levels and different functions of a company in managing business relationships (Roscoe 2001; Helfert et al. 2002; Bose & Sugumaran 2003; Bygstad 2003; Gebert et al. 2003; Stefanou, Sarmaniotis & Stafyla 2003).

This research *focused on examining how customer information usage affects customer performance in business-to-business markets*. In addition, this research explored the role of CRM systems and orientation in customer information usage. In this research, Customer Relationship Management (CRM) is defined as a managerial approach that integrates two components; one being customer relationship oriented, and the second implementing CRM or equivalent systems that support customer relationship management (see Xu et al. 2005). In this research, customer information usage was studied at the organizational level only; therefore, the unit of analysis, a user of customer information, is a business unit or company.

This research aimed at contributing new empirical knowledge to the literature of information utilization, Customer Relationship Management, and Knowledge Management. From the managerial point of view, this research created new insights for companies developing their customer information usage.

1.2 Information utilization research in the marketing field

The process of information utilization within organizations has been viewed as an important area for research in light of its implications for organizational effectiveness for decades (Menon & Varadarajan 1992). Information utilization research emerged in the field of public policy making in the 1970s (e.g. Caplan 1979). From an academic perspective, information utilization research is very fragmented. It spans a number of disciplines: education, sociology, psychology, nursing, accounting, and marketing.

In the marketing field, information utilization research started in the early 1980s. Research has been conducted from both organizational and individual perspectives. The topics include factors affecting information use, actual measurement of information use, and outcomes of it. Different types of information relevant to marketing and sales decision-making has been studied: market research knowledge, market information, export market information and competition intelligence. In the past few years, marketing researchers have shifted their focus from using more aggregated market information to using customer information (e.g. Srinivasan & Lilien 1999: customer information management; Birgelen, Ruyter & Wetzels 2003: customer satisfaction information use; Morgan, Anderson & Mittal 2005: customer satisfaction information utilization; Jayachandran et al. 2005: relational information processes).

At the same time, a number of researchers in marketing and information system science have paid attention to the potential synergies of integrating ideas from both CRM and Knowledge Management (KM) approaches at both the strategic and technology levels in order to improve management of customer information (Ballantyne 2003 & 2004; Bose & Sugumaran 2003; Gebert et al. 2003; Massey et al. 2001; Rollins & Halinen 2005; Rowley 2000b & 2004; Roscoe 2001; Stefanou et al. 2003; Tzokas & Saren 2004). This stream of research, often called Customer Knowledge Management, has been focused on topics such as how to integrate systems storing customer knowledge (Murray et al. 2001), how to analyze enormous amounts of customer data collected (Bose & Sugumaran 2003), and what comprise the

key processes of managing customer information within a company (Gebert et al. 2003).

1.3 The purpose of the research and research questions

Not until recently have marketing researchers started to explore how the vast amounts of customer information generated within companies are actually put to use in marketing and sales decision-making (e.g. Jayachandran et al. 2005). Previous research suggests that customer and market information usage in business-to-business markets is inherently different from what it is in consumer markets (Deshpande & Zaltman 1987), but only little research has been conducted on the topic (Srinivasan & Lilien 1999). Therefore, the main focus of this research was to examine how customer information usage affects customer performance in business-to-business markets. In particular, this research examined customer-specific information[1], which refers to information about and from current and potential business customers within a seller company. Furthermore, in this research, customer information usage refers to both the extent to which and types of customer information is used to gain insights and make decisions (adopted Menon & Varadarajan 1992; Maltz & Kohli 1996).

The majority of information usage research in the marketing field has focused on positive types of information use only, such as instrumental/action-oriented information usage[2] (e.g. Deshpande & Zaltman 1982, 1984, 1987; Moorman 1995; Maltz & Kohli 1996; Morgan et al. 2005). However, information use is not always desirable or even useful from a company's point of view (Vyas & Souchon 2003). Therefore, this research examines three types of customer information usages. These are: 1) *action-oriented customer information usage* (direct information use for the problem at hand), 2) *knowledge-enhancing customer information usage* (in-direct customer information usage, such as using customer information to create new insights), and 3) *symbolic customer information usage* (using information due to its appearance, not for information value). Many companies believe that investments directed to improve customer information usage simply lead to better performance (Morgan et al. 2005). This leads to the following research question:

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1 A shorter version of the concept "customer information" is used throughout this report.

2 Instrumental usage and action-oriented information usage are often used as synonyms for each other.

How does customer information usage affect seller company's customer performance in business-to-business markets?

Organizational research suggests that the way information is used within a company is the function of the present organizational systems and processes (Moorman 1995). CRM is probably one of the most recognized management approaches of the past decade. Increased competition in every business, globalization, the development of information technology, the total quality movement, the system-selling approach (Parvatiyar & Sheth 2000), and the development of a network economy have all facilitated the rise of the relationship marketing orientation, which can be seen as the theoretical origin of CRM (Rollins & Halinen 2005). Boulding, Staelin, Ehret, and Johnston (2005) propose that "CRM is the outcome of the continuing evolution and integration of marketing ideas and newly available data, technologies, and organizational forms." The CRM approach is concerned with managing relationships between a company and its customers with all its various contacts, interactive processes and communication elements (Grönroos 2000). As Xu, Yen, Lin & Chou (2003) put it, in business practice, "CRM refers to an all-embracing management approach, which seamlessly integrates sales, customer service, marketing, field support, and other functions that touch customers." Researchers and managers argue that a successful CRM system implementation always adopts a strategic approach, i.e. being customer-oriented, first, and focuses on the technology part after that (e.g. Rigby et al. 2001; Seth & Sisodia 2001).

In the past decade, numerous companies have invested heavily in Customer Relationship Management (CRM) systems and similar information tools to manage customer information within a company with the intention of making better marketing decisions (Abbott 2001; Pass, Evans & Schlacter 2004). Although the failure rates of CRM implementations are high, reported to be between 50% to 75% (Chaston 2004; Zablah, Bellenger & Johnston 2004), CRM systems can provide many benefits for a company when implemented successfully. They can be used, for instance, to facilitate gathering customer data and to support customer service, sales and marketing by providing up-to-date customer information at all times throughout the companies. CRM systems are also implemented to reduce the power of some staff groups, particularly salespeople and sales agents (Rigby et al. 2001; Corner & Hinton 2002; Day 2003).

Companies have invested more in CRM systems than in improving the use of customer information they already possess (e.g. Campbell 2003; Deshpande 2000). As early as 1967, Wilensky noted that, "in all complex systems, hierarchy, specification, and centralization are major sources of distortion and blockage of intelligence" (Deshpande 1982). The basic challenges in using

information have not changed significantly since the 1960s, but the communication environment in the companies has dramatically changed in the past ten years. The development of IT has affected the way companies and individuals are able to collect, store, share, and use information within a company as well as between a company and its customers (Rollins & Johnston 2005). However, information utilization research in marketing largely has ignored the impact of information technology development to information use (Rahm 1997).

From marketing's point of view, CRM systems are the key systems of interests when studying the impact of information technology on information use. Many companies have implemented CRM systems hoping to improve customer information usage (e.g. Morgan et al. 2005). However, there is only little empirical evidence showing that using CRM systems does improve customer information usage (Mithas et al. 2005; Sharma et al. 2005; Jayachandran et al. 2005). Therefore, this research attempts to answer the following research question:

> *How do both Customer Relationship Management orientation and systems affect customer information usage in business-to-business markets?*

Customer information is one of the most complex types of information within a company (Davenport & Klah 1998) because it is derived from multiple sources within and outside of the company. Customer information is also dynamic and it changes rapidly (Mithas et al. 2005; Rollins & Halinen 2005). The recent Trends Survey of Marketing Experts by the Institute for the Study of Business Markets concludes that "expanding understanding of customer needs, market segments, and the drivers of customer value" is the number one priority for business-to-business marketers (Oliva 2005). All this requires up-to-date customer information, and the organizational processes and practices that support generation and utilization of customer information within a company. In business-to-business markets, where managing long-term business relationships can be a crucial part of conducting business, customer information includes both quantitative (mainly numeric information such as sales history) and qualitative (information that is difficult to quantify such as information on future expectations) customer information. However, customer information in the database forms is in the cornerstone of information usage. Therefore, it is important to examine what kinds of customer information and to what extent they are collected by companies that function in business-to-business markets. This leads to the following research question:

How does the extent of customer information collected and stored affect customer information usage?

Business-to-business markets are often networked, and the current customer base can be an important factor when determine how customer information usage affects customer performance. The field interviews conducted in the pilot study, as well as the previous literature, suggest that the nature and characteristics of the current customer base might affect the relationship between customer information usage and customer performance (e.g. Srinivasan & Lilien 1999; Morgan et al. 2005). For instance, Morgan et al. (2005) suggest that "when customers are highly heterogeneous in their preferences customer information usage may distinguish a company's ability to understand and effectively segment its markets and deliver higher satisfaction levels to different groups of customer". This leads to the last research question:

How does the current customer base of the company affect the strength of the relationships between customer information usage and customer performance?

1.4 Research approach and methods

This research was a theory-testing research, which aimed at contributing to new theoretical and empirical knowledge to the information utilization and KM literatures by testing the research model. The primary purpose of this research was to examine how customer information usage affects customer performance in business-to-business context. This research also explored the effect of CRM systems on customer information usage.

The research model and hypotheses were developed based on both the previous research and the pilot study consisting of interviews in six companies. Theoretical constructs were operationalized by adopting measures from previous research in information utilization in marketing field and using the findings from pilot study.

In main study, the survey was a primary research method. The research model and corresponding hypotheses were tested empirically using statistical methods. Data to test the hypotheses were collected with two online questionnaires from sales managers, marketing managers, and CEOs in Finnish business-to-business companies. Two people from each company/business unit filled out questionnaires consisting of different sets of questions. Approximately 80% of the companies in the sample are small and medium-sized companies with turnover less than EUR 50 million. The

primary data collected with online questionnaires was complemented by secondary data gathered from Fonecta Pro-Finder database.

1.5 The structure of this report

This dissertation report consists of seven chapters (Table 1). The first chapter is the introduction to the topic, research questions and methods. The second chapter discusses the previous information utilization research conducted in the marketing field. The third chapter presents the conceptualization of customer information and customer information usage in business-to-business context. In the fourth chapter, the research model, and the hypotheses to be tested in the main empirical study are presented. The fifth chapter describes the methodologies used in the pilot study and main empirical study. The results and discussion of the studies are presented in the sixth chapter. The seventh and last chapter presents the conclusion, which consists of the summary of the research project, its theoretical and managerial contributions, and the limitations of the project as well as the avenues for further research.

Table 1 Structure of this report

Chapter	Title	Content
1	Introduction	Background and summary of the previous research Research problem and objectives Research approach and methods
2	Information utilization research in the marketing field	What is information utilization research? Previous research in information utilization in marketing
3	Conceptualization of customer information and its usage in business-to-business markets	Key concepts defined
4	A research model and hypotheses	Research model Hypotheses
5	Methodology	Research approach, design and methods (pilot and main study) Data collection process Operationalization of the constructs
6	Results and discussion	Sample and respondents Assessing validity and reliability of the measures Path and moderator analysis
7	Conclusions	Summary Contributions Limitations and avenues for future research

2 INFORMATION UTILIZATION RESEARCH IN THE MARKETING FIELD

In the field of marketing, information utilization research started in the early 1980s focusing first on the use of formal market research reports and, after that, on the use of market information and export market information. The most recent research in information utilization in marketing has been focusing on the use of customer-related information. Despite the shift of focus, a key motivation in information utilization research in the marketing field has not changed: the companies often fail to use information already available for them (Maltz & Kohli 1996). This chapter introduces the origin of information utilization research in the social sciences and it discusses the research conducted in the marketing field. In addition, this chapter discusses the differences between Knowledge Management, market orientation and information utilization research streams.

2.1 The origin of information utilization research in social sciences

Originally, information utilization research emerged in the field of public policy-making in the 1970s (e.g. Caplan 1979). The purpose of information utilization research was simply to understand why policy-makers did or did not use research information in their decision-making. Therefore, in the beginning, the information utilization process referred simply to using information generated by scientific research in public policy decision-making. Information utilization has been conceptualized many different ways in different disciplines, which makes comparing results and findings within literature very problematic (Menon & Varadarajan 1992). The use of information can briefly be defined as considering information when making decisions (Diamantopoulos & Souchon 1999) to reduce the uncertainty of decision-making (Lee et al. 1987).

From the academic perspective, the field of information utilization research is very fragmented. The literature spans a number of disciplines, such as education, sociology, psychology, nursing, accounting, and marketing. Due to fragmentation of the field, there is a lack of empirical knowledge accumulated about a number of topics. For instance, there is confusion regarding the causal relationships between key factors affecting the information utilization process,

the conditions under which effective information utilization occurs, key processes in information utilization, and how to measure information utilization (Lester 1993; Rich 1997; Rich & Cheol 2000; Miles, Miles, Perrone & Edvinsson 1998; Menon & Wilcox 2000; Oh 2004).

Early studies in information utilization took information for granted, and viewed it to be essential and worthy of special attention (Oh 1997). In other words, information utilization is usually viewed as a positive action, leading to positive outcomes. This is called the idealized model of information utilization. As Oh (1997) puts it: "[Information] use is good; more use is better, and increasing the use of social research means improving the quality of government decisions". Current research in information utilization has largely abandoned this view. For instance, Rich (1997) points out that "non-use" of information also should be recognized. Information is collected for a variety of reasons within organizations; not always for purposes of use. There might be negative, unintended consequences of information use, and sometimes it might even be rational to ignore the available information or actively reject it.

Caplan's (1979) "two-communities theory" is one of the central concepts in information utilization research in the social sciences. It explains the gap between producers and users of information: social scientists wonder why information they produce has little impact on policy matters. Caplan (1979) states that producers and users of information live in separate worlds with different and often conflicting values, different reward systems, and different languages. In marketing field, two-communities theory has been used to explain why marketing managers do not use market research results (Moorman et al. 1993).

2.2 Information utilization vs. Knowledge Management research

A research stream that overlaps with information utilization research is Knowledge Management (KM). Although these streams of research have similar practical implications, they come from two very different theoretical bases, and they have a different focus.

KM became an emerging discipline at the end of the 1990s due to a company's need to manage their knowledge resources more efficiently. Since that, knowledge has been viewed as a fundamental factor behind an organization's success, and all its activities in many businesses (Wiig 1997; Beijerse 1999). KM draws from different disciplinary backgrounds and approaches such as the cognitive sciences, artificial intelligence, computer-supported collaborative work, library and information sciences, and

organizational science (Wiig 1997; Rowley 2002b). According to Wiig (1997), the objective of KM is to "*make an organization act as intelligently as possible to secure its viability and overall success and to otherwise realize the best value of its knowledge assets*." Some scholars, such as Nonaka (1991), define KM as the process of capturing collective expertise and intelligence of organization and using them to foster innovation, i.e. the KM process has been viewed as an organizational learning process (Kakabadse et al. 2003).

The focus of KM efforts is on capturing employees' knowledge about customers, competitors, products, and services produced within a company. The practice and research in the KM field generally concentrate more on generating and sharing knowledge within organization, whereas information utilization research focuses on examining how and to what extent available information is used to reduce uncertainty and improve decision-making. In addition, some researchers, such as Rowley (2004), argue that KM efforts always should include knowledge dissemination and exploitation, "a capability to put knowledge to work."

In this research, the purpose is to examine the link between customer information usage and seller's customer performance. This research focuses only on the information use process, not on collecting or sharing customer information.

2.3 Market orientation vs. information utilization research

Market orientation research has focused on the definition, measurement, impact of a market orientation on a company's performance as well as the organizational drivers behind market-oriented behavior (Kohli & Jaworski 1990; Slater & Narver 1995 Jaworski & Kohli 1996). Market orientation research has been conducted in numerous settings, and it is viewed as one of the key concepts in the marketing literature. A firm's market orientation is often viewed to include three components: 1) a unifying belief that emphasizes serving and creating value for customers; 2) a set of organization-wide processes involving the generation, dissemination, and responsiveness to intelligence pertaining to current and future customer needs; and 3) a firm capability to anticipate market requirements ahead of competitors and to create durable relationships with customers, channel members, and suppliers (Kyriakopoulos & Moorman 2004).

Market orientation and information utilization research overlap each other largely. However, the measurement of the key constructs, the information utilization processes itself, can be very different. Information utilization focuses only on the process of actual or intended use of information, where as

market orientation focuses on a company's behavior being market-oriented in general.

2.4 Information utilization research in marketing

The process of information utilization within companies has been viewed for decades as an important area for research in light of its implications for organizational effectiveness (Menon & Varadarajan 1992). In the past 30 years, a substantial amount of research has been done concerning the use of market research knowledge, market information, export market information, and competitive intelligence both at individual and organizational levels (e.g. Deshpande & Zaltman 1982, 1984, & 1987; Moorman 1995; Maltz & Kohli 1996; Celuch, Kasouf & Strieter 2000). For instance, Deshpande and Zaltman have examined the organizational factors that affect market research information use. The most recent research has been focusing on customer information usage. Srivasan and Lilien (1999) examined managing and using customer-specific information, and its effect to customer satisfaction in business-to-business companies. In their study, Morgan et al. (2005) focused on the use of customer satisfaction information across the industries. In this section, the term "information utilization" refers to all research conducted around this topic in the marketing field.

Previous research conducted in information utilization in the marketing field can be classified into three broad topics, illustrated in Figure 1. First, there is research that focuses on antecedents of information use. Second, there is research conducted on various ways of conceptualizing and measuring information use. The last broad topic, outcomes of information utilization, is the least explored research area in the current literature.

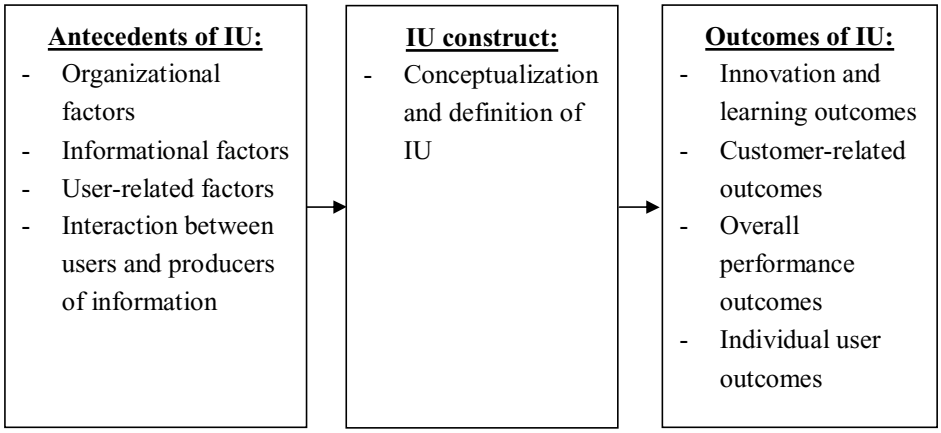

Figure 1 Overview of topics examined in information utilization (IU) research in the marketing field

2.4.1 The concept of information utilization in marketing

As stated earlier, in its simplest form, information utilization is defined as considering information when making decisions (Diamantopoulos & Souchon 1999) to reduce the uncertainty of decision-making (Lee et al. 1987). However, in the information utilization literature, three different conceptualizations can be found: 1) the extent to which information is used directly to guide behavior and make decisions, 2) the extent to which information leads to the reduction of uncertainty in decision-makers, and 3) the specific changes in three psychological areas, behavioral, cognitive, and affective (Menon & Varadarajan 1992). In other words, the domain of information utilization can be both behavioral and cultural. Rich (1997) raises an important question about the nature of information utilization: "*to what extent information utilization should be considered to be a process and what extent an outcome*." For instance, Maltz and Kohli (1996) define information utilization from the process perspective as "the extent [to which] the receiver uses the information disseminated by the sender to understand his/her work environment and to make and implement decisions."

Menon and Varadarajan (1992) evaluate market research information utilization along four dimensions: 1) the users of customer information, 2) the domain where customer information is used and the unit of analysis (individual, group, and organization), 3) the timeframe within customer information usage, and 4) the types of customer information usages. The

extent of information utilization varies greatly depending upon who is using it, and where. The temporal dimension of information use is critical (Larsen 1985), and it is a problematic dimension to measure and capture because information can change rapidly. The last dimension of Menon and Varadarajan's (1992) evaluation, the type of information use, is probably the most controversial one. In the marketing field, researchers often conceptualize information utilization as various types of information utilization, i.e. focusing on *how* information is actually used within organizations by individuals or groups.

Previous research on information utilization research in marketing has measured information usage in various ways: as a multidimensional construct, with one scale capturing two or more information[3] usages, and with one scale that measures the process of gathering, disseminating and responsiveness to information, i.e., market orientation scale. For instance, Dunn suggests that action-oriented information use is simply one kind of knowledge-enhancing use (Maltz & Kohli 1996). Moorman (1995) defines and operationalizes two types of information usages, action-oriented and knowledge-enhancing market information usages, whereas Maltz & Kohli (1996) use one scale to capture both action-oriented and knowledge-enhancing information usage. Diamantopoulos & Souchon (1999) developed the scale for export market information usage, which distinguishes between instrumental – conceptual and symbolic information usages. The most complex operationalization of market information usage is Menon and Wilcox's (2000) USER scale. The scale consists of four different types of information usages, which are measured as a third order factor model.

The first studies conducted in information utilization in the marketing field focused on instrumental information usage only (e.g. Deshpande & Zaltman 1982; 1987), which refers to direct use of information on the problem at hand. Later, different types of information utilization have been studied by marketing scholars. For instance, Moorman (1995) distinguishes two types of information utilization: instrumental and conceptual. As stated earlier, Diamantopoulos and Souchon (1999) also recognize the third type of information utilization – symbolic information utilization – on the side of instrumental and conceptual information usage.

Menon and Wilcox (2000) conceptualize market research information utilization accordingly to the types and the extent of information utilization in decision-making. They propose three major types of utilization: action-oriented, knowledge-enhancing and affective. In addition, Menon and Wilcox further conceptualize each major type of information utilization into sub-

[3] Such as instrumental – conceptual information usage measured as one scale.

dimensions. Action-oriented or instrumental information utilization refers to the direct application of research findings and conclusions to solve a problem at hand (Menon & Varadarajan 1992; Diamantopoulos & Souchon 1999). Knowledge-enhancing customer information usage is the less direct use of information than the action-oriented type: it provides a general enlightenment of the situation. Arnett et al. (2000) explain that knowledge-enhancing customer information usage is in question in the situations where projects and studies within an organization have provided concepts, models and theories that can be utilized to solve broader problems with customers or the customer base. Therefore, knowledge-enhancing customer information usage can be difficult to identify by users themselves. Affective use of information refers to situations where knowledge is used to make the decision-makers "feel good" about their decisions; i.e. knowledge is used to affirm a decision made (Arnett et al. 2000; Menon & Varadarajan 1992). The role of customer information is confirmatory and it directly serves the individual decision-maker.

2.4.2 Antecedents of information utilization

A number of studies have been conducted on the factors affecting information utilization. Organizational, informational, individual related factors, and interaction between users and producers are studied. Figure 2 illustrates these factors.

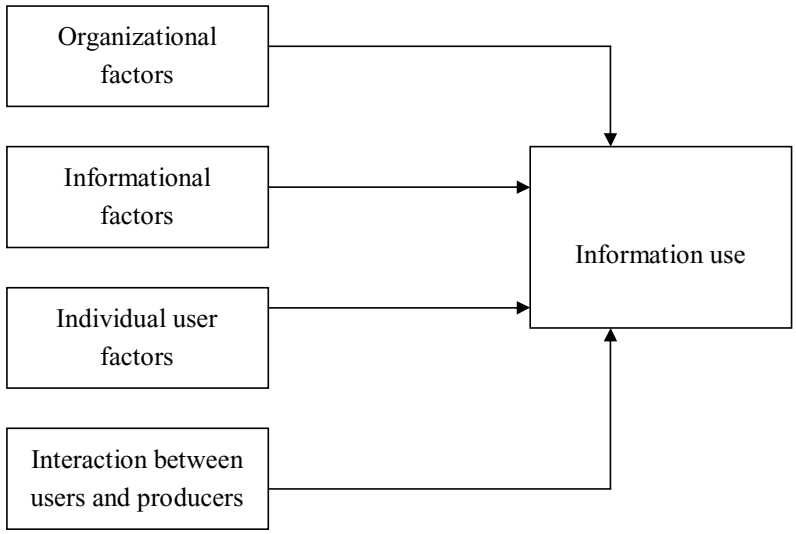

Figure 2 Factors affecting information use

The degree of formalization or centralization of the organizational structure has been found to affect how market research knowledge and market information are used (Deshpande & Zaltman 1982; 1987). Previous research suggests that managers who work in less formalized organizations are more likely to use market research knowledge than are managers in more structured organizations (e.g. Deshpande 1982). Menon & Varadarajan (1992) propose that an organization's information and innovation culture and internal and external communication flows also affect how and to what extent market information is used. Moorman (1995) studied how a company's culture affects the use of market information. Contrary to what was expected, a clan culture, internally oriented in its nature, was the most effective at transmitting and using market information. The most recent research in marketing has studied the effect of customer relationship orientation and customer-centric management systems on information utilization (e.g. Jayachandran et al. 2005).

Informational factors affecting market research or market information usage refers to the quality, type, value, and nature of information available or presented (market research reports). For instance, Deshpande and Zaltman (1987) found that greater utilization of market information in business-to-business markets was related to a greater explorative objective in information collection, and to a lesser degree of surprise in the information collected. An interesting finding regarding the nature of information collected was that researchers (producers of market research) and managers view the purpose of the research itself very differently: researchers valued exploratory research, whereas managers tended to prefer more confirmatory research (Deshpande & Zaltman 1984). Maltz and Kohli (1996) made an important finding: perceived quality of market intelligence promoted its dissemination and use within a company. Surprisingly, he found that evidence for the reverse effect was weak. Menon and Varadarajan (1992) suggest that cost of information and perceived usefulness and credibility of information also affect its use.

Individual user-related factors refer to the factors that directly affect the individual decision-maker's ability or willingness to use market research knowledge or market information. Lee, Acito, and Day (1987) found that decision–makers tend to discount research results that were not in agreement with their prior beliefs. This means that decision-makers tend to favor confirmatory market research or market information. It was also found that qualitative research results had greater impact on decision-makers than quantitative research results (Lee et al. 1987). A few years later, Rao and Perkins (1990) concluded that the more experienced managers perceive having more information available as useful than do less experienced managers. They also value qualitative market information over quantitative.

Interaction between producers and users of market research knowledge and market information is one of the most crucial issues in information utilization. This was the original purpose to begin studying information utilization in the social sciences in the 1970s (Caplan 1979). Deshpande and Zaltman (1984) found that both researchers and managers value interaction between producers and users of market research knowledge, and Moorman, Deshpande, and Zaltman (1993) later found that trust actually influences the perceived quality of interaction between researchers and managers, and, in turn, that influence drives the use of market knowledge. Arnett, Menon, and Wilcox (2000) had similar findings: communication among the key participants of the competitive intelligence project had a positive effect on the perceived trustworthiness of the principal competitive intelligence provider and perceived usefulness of the competitive intelligence project had a positive effect on all positive types of information use.

Celuch, Kasouf, and Strieter (2000) found that an employee's view of her/his company's capabilities to generate market information had a positive influence on the employee's perceptions of firm information-dissemination capability. This, in turn, positively affects the employees' confidence in their own ability to obtain and communicate market information within a company, and the perceptions related to intangible and subsequent tangible benefits of using information. Van Birgelen, de Ruyter, and Wetzels (2000) found that one's attitude is a relevant concept in explaining an individual's use of customer satisfaction information.

2.4.3 Outcomes of information utilization

There is far less research on the outcomes of different types of information utilization area than on the antecedents of information utilization. Figure 3 illustrates outcomes examined in information utilization research in marketing: 1) innovation and learning outcomes, such as new product development outcomes; 2) customer-related outcomes, such as customer satisfaction or customer performance; 3) overall performance-related outcomes, such as export performance; and 4) outcomes related to individual users, such as increased confidence. Some of the outcomes can also interact with each other; for instance, learning outcomes can affect overall performance outcomes (e.g. Toften & Olsen 2001).

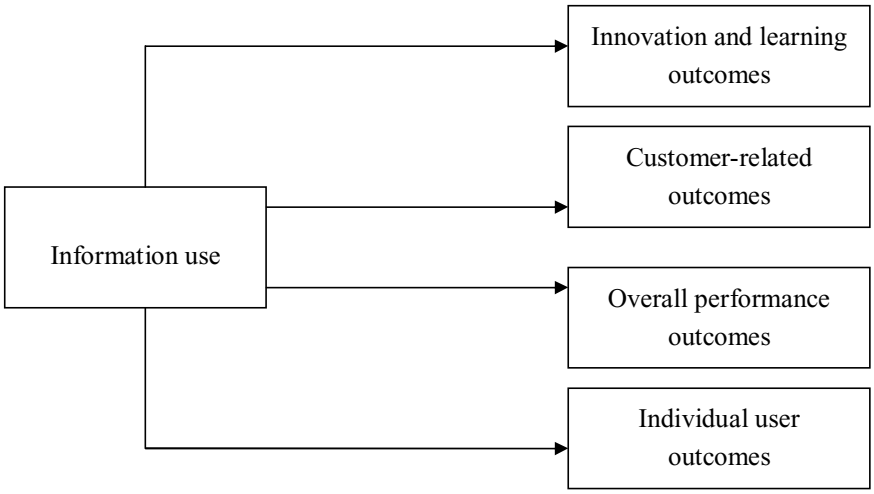

Figure 3 Outcomes of information use

Few researchers in marketing have explored innovation and learning outcomes of information utilization. Moorman (1995) found that two different types of information usages, instrumental and conceptual, had different new product outcomes. Toften and Olsen (2001) propose that organizational knowledge creation mediates the relationship between export information use and business performance. Zahay, Griffin, and Fredericks (2003) explored information use in the new product development process in the business-to-business setting. They found that many different types of information, internally and externally generated, are used to improve the new product development process.

Customer-related outcomes can be viewed the most important factors to examine when using customer information. Srinivasan and Lilien (1999) examined the effect of customer information management on customer satisfaction in business-to-business markets. Recently, Jayachandran et al. (2005) found support that relational information processes have a positive impact on customer performance. Morgan et al. (2005) proposed customer satisfaction information usage leads to better customer performance.

Information use has been proposed to have a positive effect on export performance (Diamantopoulos & Souchon 1999; Richey & Myers 2001; Toften & Olsen 2004), and overall business performance (Slater & Narver 1994; Helfert et al. 2002; Chaston et al. 2003; Sivaramakrishnan, Delba & Bruning 2004). For instance, Richey and Myers (2001) examined export market information use in export channel decisions, and found that it has a positive impact on the export performance of the company.

Information use can also have *individual user related outcomes.* Arnett et al. (2000) studied two outcomes of using competitive intelligence: decision-making ability and attitude toward competitive intelligence use, at the individual information user level. Results indicated that competitive intelligence usage is believed to enhance decision-making ability. After using competitive intelligence, managers viewed it more positive. Therefore, Arnett et al. (2000) suggest that the general process of carrying out a competitive intelligence project might even be more valuable than the actual results.

3 CONCEPTUALIZING CUSTOMER INFORMATION AND ITS USAGE IN BUSINESS-TO-BUSINESS MARKETS

The concepts of customer information and customer information usage have not been yet defined clearly in the marketing field. Therefore, the purpose of this chapter is to elaborate these concepts further in the business-to-business setting based on the findings from the pilot study and literature review. Methodology of the pilot study is presented in chapter 5.

3.1 Customer information and related concepts in marketing

The concept of customer information is not defined yet in the marketing literature, however, many closely related concepts can be found, such as *market knowledge* (e.g. Deshpande 2000; De Luca & Atuahen-Lima 2007), *marketing knowledge* (e.g. Troilo 2006), *market information* (e.g. Moorman 1995), or *marketing intelligence* (Kohli & Jaworski 1990). Although these concepts overlap each other, in particular in business practice it is important to distinguish between them. The following concepts: market knowledge, market information, market intelligence, and customer information, are compared in terms of definition in marketing literature, primary sources, primary ownership, and the unit of analysis. Table 2 provides a summary.

Table 2 Customer information and related concepts in marketing

Concept	Primary sources	Primary Ownership	Unit of analysis
Market Knowledge	Market research (outside or inside company)	Organization, marketing department	Analyzed, organized knowledge, reports, Segment or group level
Market Information	Various sources: market research, field observations	Organization, marketing department	Segment or group level
Market Intelligence	Inside and outside of organization; research and employees	Organization, sometimes employees	Analyzed and organized, Segment or group level
Customer Information	Customer satisfaction, research, sales personnel, technical support, customer service.	Both organization and employees; sales, marketing, and customer service	Analyzed information; Individual customer level and group level

According to Deshpande (2000) *market knowledge* consists of knowledge about the market, i.e. customers and competitors. This concept was earlier used to refer to knowledge generated by market research. Troilo (2006) argues that the purpose of the marketing department within a company is to generate market knowledge, share it with other departments, and promote its use in decision-making. De Luca and Atuahene-Gima (2007) recently proposed the following market knowledge dimensions: breadth, depth, tacitness, and specifity. Market knowledge is generated and possessed primarily by the marketing department, and the primary source of this knowledge is market research. Therefore, market knowledge is always analyzed and organized somehow.

Market information is the term that is often used in marketing literature and practice to refer to all types of information needed in marketing decision-making (e.g. Celuch et al. 2000). Glazer (1991) points out that market information consists of "data that have been organized and given structure – that is, placed in context – and endowed with meaning." Market information is concerned with a company's current and potential external stakeholders. For instance, Moorman (1995) explains that "market information cuts across all functional areas of an organization, and it is used by all departments and

functions dealing with customers," whereas market knowledge is used only by marketing departments.

Marketing intelligence is used to refer to information generated within an organization (Menon & Varadarajan 1992). In addition, it also refers to the process of gathering data about the market, including customers and competitors, distributing it within an organization, and an organization's responsiveness to it (Kohli & Jaworski 1990). Kohli and Jaworski (1990) emphasize "market intelligence is a broader concept than a customer's verbalized needs and preferences in that it includes an analysis of exogenous factors that influence those needs and preferences." Therefore, market intelligence generation is not the exclusive responsibility of a marketing department, but is conducted collectively by various individuals and various departments of the company (Kohli & Jaworski 1990). Marketing intelligence is inherently the organizational level concept.

Hanvanich, Dröge, and Calantone (2003) suggest that the concept of customer information refers to information related to individual customers, such as customer information in CRM systems, instead of aggregated information about the markets (customers and competitors). This is the first key difference between customer information and other related concepts presented earlier. In the context of business-to-business markets, an individual customer is the main unit of analysis when gathering customer information, whereas market information is concerned more with aggregated information. It was confirmed in the pilot study interviews and previous research (Deshpande and Zaltman 1987) that, in business-to-business markets, the role of market research knowledge is not as significant as customer information in marketing and sales decision-making. For instance, companies interviewed in the pilot study, in particular ones with the smaller customer bases, viewed organizing customer database around individual customers as very important.

Customer information can be collected by several methods, such as through transaction situations, interviewing customers, interacting with customers in the field, carrying out customer satisfaction research or observing customers, on a web site or in gatherings that are related to an organization's products and services (Davenport et al. 2001; Garcia-Murillo & Annabi 2002; Rowley 2002a). In many companies, building an integrated customer database represents a frightening challenge, because customer information is usually dispersed across the entire organization: departments, databases, binders, personal laptops and, particularly, in the minds of people (Abbott 2001; Davenport & Prusak 1998; Foss et al. 2002). This is the second key element in describing how customer information differs from the widely used concepts of market information and market knowledge, which are solely organizational level concepts (Deshpande & Zaltman 1982; Moorman 1995; Hanavich et al

2003) and often include the idea of being structured knowledge (Li & Calantone 1998). Therefore, the ownership of customer information is shared with both individuals and the organization. For instance, sales personnel have an advantage in gaining intimate information about the customers (Liu & Corner 2006). Customer information can be structured or analyzed and it can also be left as it is (Davenport 1998).

3.2 Defining customer information in business-to-business markets

In this research, customer information is defined as *customer-specific information about and from current and potential business customers within a seller company*. In business-to-business context, the term "customer" includes both a company/business unit and the people involved in and influencing the buying process. One informant in the pilot study interviews illustrated the complexity of customer information in business-to-business markets by saying:"[In business-to-business markets], customer information comes from many levels and from numerous sources." The types of customer information that a seller company collects about the buyer company are classified into four categories: 1) market and industry level, 2) organizational level, 3) business unit and buying center level, and 4) individual level information about the customer (Rollins & Johnston 2007). Table 3 presents these categories.

Table 3 Types of customer information collected about business customers

Customer information types collected	Practical Illustration
Market level information about customer	Data on customer's business environment Market data on customer Data on customer's customers
Organizational level information about customer	Contact data Sales history (individual customer level) Customer satisfaction data Feedback from customers on products and services provided Data from help desk or customer support services
Buying center or business unit level information about customer	Customer satisfaction data Data on customer's top management Correspondence data (emails etc.) Data from help desk or customer support services
Individual level information about customer	Data on customer's buyers (and other decision-makers) Correspondence data (emails etc.)

Market and industry level customer information refers to information about a customer's market situation in general. This can be, for instance, information on a customer's business environment, market information on a customer's market such as current trends, or information on a customer's customers, i.e. end-customers. The following quote from the pilot study illustrates this:

> *"When we are talking about customer information, we refer to information on [the] customer company, and this includes things like knowing a customer's business and its customers."*

Organizational level information about a customer refers to information about and from a buyer company in general. This overlaps with customer information at the business unit and buying center levels. Examples of organizational level customer information are contact data, sales history of the buyer, customer satisfaction data (through research and/or field insights), informal and formal feedback from the customer on products and services provided, and data from the help desk or customer support.

The business unit and buying center level information refers to information about and from individuals involved in buying process. This includes customer satisfaction data, data on a customer's top management, correspondence data (emails, memos, etc.) and data from the help desk or customer support services. The next quote illustrates this idea:

> *"It is important to know and understand a customer at many levels because we do have experts, who can come to tell about products and service, but [also] to create the contact and make a customer believe that we have something valuable to offer and make them listen to us. For instance, if a customer company hires new people in management, it takes for a while to get to know and understand them, to create relationship and get business running again."*

Individual level customer information refers to information on a customer's key employees when selling products and services, such as buyers. This information can be very detailed or only consist of contact information. Customer information converted from an organization's databases only provides detailed knowledge on *past* customer behavior. However, in the business-to-business market, in managing individual customer relationships, understanding how to deal with one another in different situations is also important. The next quote from the pilot study interviews illustrates the detailed individual level customer information:

> *"We collect at the local office information on [a] customer's key employees such as what type of person someone is, hobbies, family background, should we take a person to the baseball game or football game, what kind of restaurants they might like etc… It is valuable information."*

In this research, this type of customer information is understood as relationship-specific information (Rollins & Halinen 2005). Relationship-specific information refers to "customer information required in dealing with one another in business relationships" (Zahay 2002; Rollins & Halinen 2005). This type of customer information is generated based on past relational experiences in interaction and in the dialogue between a buyer and a seller company (Ballantyne 2004).

3.3 Defining customer information usage in business-to-business markets and focus of this research

The framework of Menon and Varadarajan (1992) was used to conceptualize customer information usage in business-to-business companies. Table 4 shows a summary of the framework and focus of this research. Customer information usage is evaluated along five dimensions: 1) users of customer information, 2) domain where customer information is used and unit of analysis, 3) timeframe within customer information usage (adopted from Menon & Varadarajan 1992), 4) interfaces where customer information is used, and 5) the types of customer information usages (Rollins & Johnston 2005). “CI” refers to customer information.

Table 4 Underlying parameters of customer information usage in business-to-business companies (adopted from Menon & Varadarajan 1992)

Underlying Parameters	Frame of Reference in CI	The Focus of This Research
Users of CI	Top management, managers, employees	Managers and employees dealing with current and potential business customers
Domain of CI utilization and unit of analysis	Corporate, business unit, strategic, functional, and operational levels Unit of analysis: individual or organization	Operational level Unit of analysis: organization level, business unit/company
Timeframe within CI utilization	Continuous, immediate	Continuous
Interfaces where CI is used	1) Among different functions within a seller company, 2) between seller and buyer companies, 3) between a seller company and its partners, and 4) in a buyer company	1) Among different functions within a company, and 2) a seller company's point of view only
The types of CIU	Instrumental/action-oriented, conceptual/knowledge-enhancing, symbolic and affective	Action-oriented, knowledge-enhancing, and symbolic CI usage

In business-to-business markets, the extent of the use of customer information varies greatly depending on who is using it. The sales force, often the heavy-user of customer information in business-to-business markets (Williams 1999), uses customer information, for instance, in preparing customer visits or offers, whereas the accounting department uses customer information in order to track payments or to design payment plans for each customer. The marketing department uses customer information to individualize the promotion activities to specific customer groups or to individual customers. In conclusion, customer information is often used in decision-making in all the departments of a company.

In the information utilization literature, information utilization has been conceptualized in three ways: 1) the extent to which information is used directly to guide behavior and make decisions, 2) the extent to which information leads to the reduction in uncertainty in decision-makers, and 3) the specific changes in three psychological areas, behavioral, cognitive, and affective (Menon & Varadarajan 1992). In other words, the domain of information utilization can be both behavioral and cultural. In this research, the domain is behavioral.

In business-to-business markets, customer information has an impact on two levels 1) overall decision-making within a company/business unit, and 2) an impact only on decision-making in one department, such as new product development or marketing. Menon and Varadarajan (1992) argue that it is desirable to delineate the level at which the use of customer information occurs within an organization. In this research, three levels and units of analysis are distinguished: 1) an individual (such a salesperson or a marketing manager, 2) a group of decision-makers (such as top management) and 3) the company level that can be viewed as either a business unit or division level or company (Rollins & Johnston 2005). The pilot study interviews emphasized that customer information use occurs at all the levels of organization in business-to-business markets. However, this research focuses on customer information usage at the organizational level only.

One of the most critical determinants of information use is its temporal dimension (Larsen 1985). It is a problematic dimension to measure and capture because customer information generated within a company is constantly changing and updated. Therefore, in this research, the timeframe of customer information usage is continuous. Rich also (1997) raises the question as "to what extent information utilization should be considered to be a process and [to] what extent an outcome." In this research, customer information usage is understood as an ongoing process that leads to certain outcomes, e.g. improved customer performance.

Customer information is required in decision-making in four different interfaces within a business unit/company and during interaction with customers (Rollins & Johnston 2005). First, customer information is used in the different functions of a seller company, such as in marketing, sales, or R&D. Second, customer information is used during interaction with a buyer company in order to deliver the desired level of customer service (customer-facing functions, traditionally customer service, and sales). Third, customer information is needed in decision-making between a seller company and some of its partners. For instance, individual-based customer information is required to determine interest rates or payment plans of a buyer company. Fourth, customer information can also be useful for a buyer company itself; for

instance, a seller company can provide customer information about a buyer company's actions such as usage of energy or the number of outgoing phone calls of each department. In business-to-business markets, this type of customer information sharing between seller and buyer companies can be part of the service or product offering, and it can be shared in the form of a written report or face-to-face meeting with the customer. In this research, the focus on the use of customer information is found 1) within a seller company, and 2) during interaction with a seller and a buyer company from a seller company's point of view.

The majority of information usage research in the marketing field has focused on positive types of information usages producing positive outcomes e.g. Deshpande & Zaltman 1982, 1984, 1987; Moorman 1995; Maltz & Kohli 1996; Morgan et al. 2005). However, information use is not always desirable or even useful from a company's point of view (Vyas & Souchon 2003). Therefore, this research examines three types of customer information usages: 1) action-oriented customer information usage (direct information use), 2) knowledge-enhancing customer information usage (indirect customer information usage), and 3) symbolic customer information usage (using information due to its appearance, not for information value.

In general, *action-oriented information* usage refers to the direct application of information to solve a problem at hand (Menon & Varadarajan 1992; Menon & Wilcox 2000). For example, in the case of a customer, information is used in an action-oriented way in customer service situations where customer information is required to fill the gaps in a decision-maker's knowledge. Morgan et al. (2005) suggest that action-oriented customer information usage is the predominant type of information use within companies. Very similar insights were found in the pilot study: action-oriented customer information usage is a starting point for developing and improving information usage within a company. However, all five companies that participated in the pilot study used customer information also indirectly, and in particular, symbolically. The following quotes from two companies illustrate action-oriented customer information usage:

> *"We try to find out how our products and services work for the customer, and this information is used in marketing and sales of these products and services. If we find out that something is not working in the customer's plant, we sell the service to make it work better. We try to sell services to[the] same customers."*

> *"We have some customer statements and open referrals, such as generic customer cases, that we use in our sales and marketing."*

Knowledge-enhancing customer information usage is a less direct use of information than the action-oriented information use: it provides a general enlightenment of the situation (Menon & Wilcox 2000). Knowledge-enhancing customer information usage refers to the situations where projects and studies within an organization have provided concepts, models and theories that can be utilized to solve broader problems with customers or the customer base (adapted from Arnett et al. 2000). Therefore, knowledge-enhancing customer information usage can be very difficult to identify by the users themselves. To put it simply, knowledge-enhancing customer information usage is a more strategic use of customer information than action-oriented customer information usage. The following quotes from the field interviews illustrate knowledge-enhancing customer information usage well:

> *"We have attempts to calculate customer profitability at the individual customer level for all customers. We already do this with our key accounts. This is [a] very important issue. Through this we could manage [the] customer relationship better."*

> *"We have to triangulate customer information... We have 1-to-1 correspondence with the customers, and we have to build groups."*

> *"We have customer case workshops in which we teach our new employees about our business and customers. This happens across the different country units."*

Within a company, customer information also can be used *symbolically*, meaning that information is used for appearance's sake, not for its information value (Diamantopoulos & Souchon 1999; Vyas & Souchon 2003). This type of information usage is simply called symbolic information usage**.** When customer information is used symbolically, it is not intended to bring valuable insights to the decision-making process such as planning new marketing strategies, but rather only because customer information exists. Extensive symbolic use of customer information can be a sign of mistrust of the quality of customer information available and the result of formalized organizational structure. When customer information is used symbolically, it is used because it is "a right thing to do" (Menon & Varadarajan 1992). The next quote illustrates symbolic customer information usage well:

> *"Ultimately, this comes to [the] end that many employees just want to have the list' (such as customer preferences). It takes a lot of education to change behavior, because the list can be misused or not used at all for the purpose it was created."*

It can be argued that symbolic customer information usage always exists within an organization at a certain level. The key is to try to reduce it, not try to eliminate it.

In summary, in this research, customer information usage refers both to the extent and how collected and stored customer-specific information is used in marketing and sales decision making within a seller company and its customer interface. In other words, this research examines how and to what extent companies are able to make use of the customer information they possess in their systems, memos, and people's minds. This research examines three types of customer information usages (action-oriented, knowledge-enhancing, and symbolic) at the organizational level.

4 A RESEARCH MODEL AND HYPOTHESES

This research involves a theory-testing research, whose primary goal is to examine how different types of customer information usage affect seller's customer performance in business-to-business markets. Specifically, this research explores four antecedents and one outcome of three types of customer information usages. This research also explores the moderating effect of customer base on the relationship between customer information usage and seller's customer performance. Figure 4 illustrates the overview of the research model proposed.

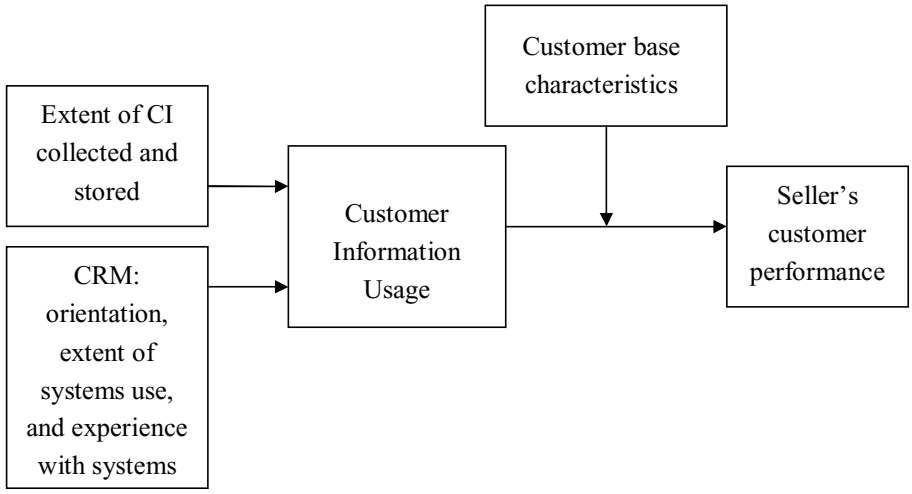

Figure 4 Overview of the research model

4.1 Factors affecting customer information usage

"Data, data everywhere, and not a byte for use" is often an unfortunate reality in many companies when improving customer information use (Abbott 2001). One reason for this is that companies often invest more in collecting and storing customer information than in analyzing and using information they already have (e.g. Day 2003; Owens 2006). Therefore, researchers, such as Troy et al. (2001), call for empirical research on how and to what extent the

amount of information collected affects actual information usage. Information utilization research from many disciplines concludes that the types and amounts of information collected affect, positively or negatively, its usage (Oh 2004). Amounts of information collected also have an effect on different stages of the information usage process such as problem recognition or generation of alternative solutions (Menon and Varadarajan 1992).

The pilot study companies strongly believed that understanding customers in business-to-business markets goes beyond knowing a customer's preferences. They argued that collecting customer data from a number of sources and levels in the organization is beneficial, although vast amounts of data are challenging to analyze and store. The findings also suggest that the amounts of customer information collected and stored is a good indicator of the actual customer information usage. For instance, one informant emphasized this by stating:

> *"Here customer information is never collected for the sake of collecting." On the other hand, in one company, the situation was completely opposite: "Nobody takes care of our customer database. Everybody can save anything there, in any format... It is difficult to find anything there. A huge problem."*

One informant stated that she would like to see even more customer information collected and stored about each individual customer; for instance, competitors who are in the industry, customer's customers, and a buyer's complete sales history. All informants in the pilot study interviews agreed that improving the collection and storage of the right types of customer information would promote customer information usage. Therefore, it is proposed:

> *H1a: The more customer information is collected and stored, the more action-oriented customer information usage occurs within a company.*

> *H1b: The more customer information is collected and stored, the more knowledge-enhancing customer information usage occurs within a company.*

Symbolic customer information usage is the type of information use that can be defined as "a bad information use habit"; i.e., using customer information for the sake of its appearance, not for information value. It can be also suggested that symbolic customer information usage is caused by the lack

of usable and reliable customer information within a company. Therefore, it is proposed as follows:

> *H1c: The more customer information is collected and stored, the less symbolic customer information usage occurs in the company.*

Researchers and practitioners argue that a successful CRM implementation always adopts a strategic approach, i.e., being customer-oriented, first, and then focuses on the technology part after that (e.g. Rigby et al. 2001; Seth & Sisodia 2001). Informants, (in particular in company A), in the pilot study emphasized that when implementing CRM systems more customer orientation education is needed than technical education. Employees need to be reminded why and how customer information needs to be collected and stored, and ultimately used. Two of the companies in the pilot study believed that their customer-oriented corporate culture is a major advantage in further developing customer information usage. One informant stated that "*knowing and understanding customers is highly valued in this company at all levels*," and he continued, "*customer information use is a lot about culture. Another piece is the notion that customer information is very valuable*."

Some empirical evidence suggests that customer relationship orientation promotes customer information use. Jayachandran et al. (2005) found, in their cross-industry study, a positive association between customer relationship orientation and relational information processes, and Van Birgelen et al.'s (2000) findings suggest that commitment to customer satisfaction advantages the use of customer information. Therefore, it is proposed:

> *H2a: Customer relationship orientation has a positive effect on action-oriented customer information usage.*
>
> *H2b: Customer relationship orientation has a positive effect on knowledge-enhancing customer information usage.*
>
> *H2c: Customer relationship orientation has a negative effect on symbolic customer information usage.*

The development of information technology has significantly affected how companies can collect, store and share information about their customers and competitors within a company (Glazer 2000). However, investments in CRM systems and training do not pay off if employees do not actually use CRM systems in their everyday work.

A majority of the informants in the pilot study viewed CRM or equivalent systems as important and essential tools in improving customer information usage in a number of ways. One of the main reasons why companies

implement CRM systems is to make use of customer information more efficient within an organization (Mithas et al. 2005).

Simply, an access to information is a prerequisite for information usage in any context (Oh 2004). CRM systems can provide access to customer information in different parts of the company. One of the pilot study companies emphasized the importance of having different levels of access to the customer information within a company for different employees. For instance, only key account managers and top management have access to strategic-level customer information due to privacy issues.

Pilot study participants also stated that CRM systems can be used to organize customer information into a more usable form, and that it can be centralized. Two of the companies interviewed in the pilot study, companies A and C, had implemented new CRM systems only a few months before the interviews. They believed, and had already received some evidence that a new CRM system would facilitate organizing customer information and make its use more efficient and easier within the company.

Recently, marketing researchers have found some empirical evidence that CRM and equivalent systems have a positive effect on customer performance and on creating understanding of the customer's needs and preferences. Zayah and Griffin (2004) found that customer information systems development is often associated with higher levels of customer performance in business-to-business markets. Based on their cross-industry study, Mithas et al. (2005) suggest that the existence and use of CRM systems are positively associated with a company's understanding of its customers, and because of this fact, they improved customer satisfaction. However, it needs to be noted that not all research confirms the positive effect of CRM systems usage on customer performance or customer information management (Reinartz et al. 2004). It is proposed:

> *H3a: Extent of CRM systems use has a positive effect on action-oriented customer information usage.*
>
> *H3b: Extent of CRM systems use has a positive effect on knowledge-enhancing customer information usage.*
>
> *H3c: Extent of CRM systems has a negative effect on symbolic customer information usage.*

CRM systems are organizational-wide systems that can be integrated into other systems such as Enterprise Research Planning (ERP) systems. Researchers and practitioners agree that implementation of CRM systems takes time, even for years (Rigby et al. 2001). In pilot study interviews,

companies that had CRM systems argued that it takes time to get employees as well as management to learn to make full use of the CRM systems. Therefore, it is proposed:

> *H4a: Experience with CRM systems has a positive effect on action-oriented customer information usage.*
>
> *H4b: Experience with CRM systems has a positive effect on knowledge-enhancing customer information usage.*
>
> *H4c: Experience with CRM systems has a negative effect on symbolic customer information usage.*

4.2 Outcome of customer information usage: Seller's customer performance

This research adopts Larsen's (1981) idea of viewing information utilization as a function that improves some other processes to which it is related. Customer information usage is studied from the marketing perspective; therefore, the outcome of interest here is seller company's customer performance.

Previous research in marketing field strongly suggests that customer information use[4] is directly related to a company's customer satisfaction, customer loyalty and retention (Helfert et al. 2002; Chaston et al. 2003; Anderson & Mittal 2000; Kamakura et al. 2002; Yim, Anderson & Swaminathan 2004; Sivaramakrishnan, Delba & Bruning 2004; Morgan et al. 2005). The pilot study companies shared this view: improving the use of customer information or already being able to use customer information in various ways leads to better customer satisfaction and customer profitability. or instance, one participant stated that *"there is definitely a link between having good customer information and a high level of customer satisfaction"*. Therefore, it is proposed:

> *H5a: Action-oriented customer information usage has a positive effect on seller's customer performance.*
>
> *H5b: Knowledge-enhancing customer information usage has a positive effect on seller's customer performance.*

---

[4] Or customer information management.

Symbolic customer information usage refers to situations where customer information is used for its appearance's sake, not for its information value. For instance, when customer information is used to justify the decisions already made, it is used symbolically. It can also be described as "using information politically while responding to a hidden personal agenda, e.g., self-promotion" (Vyas & Souchon 2003). There is very little research conducted on symbolic information usage overall. Moreover, there is no empirical evidence about the impact of symbolic customer information usage on seller's company's customer performance or other types of information usages. Therefore, it is proposed:

> *H5c: Symbolic customer information usage has a negative effect on seller's customer performance.*

Figure 5 illustrates the structural model of hypotheses H1a–H5c and their proposed direction. Appendix 1 provides the abbreviations of the constructs.

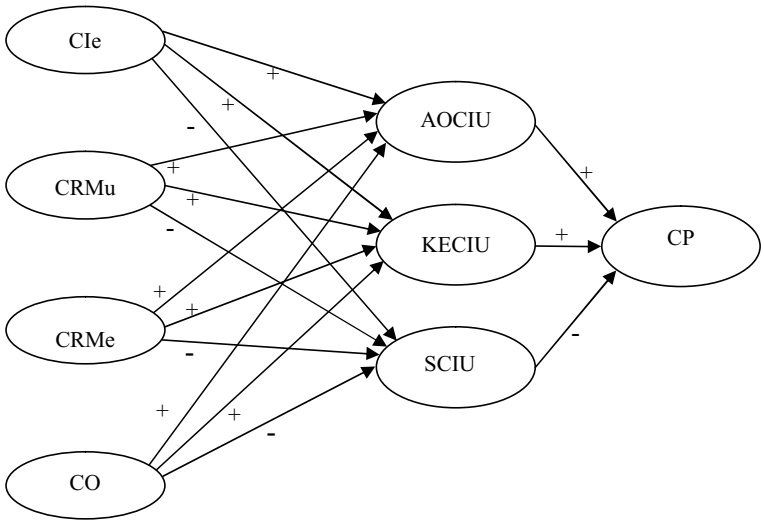

Figure 5 A structural model and the direction of the hypotheses

4.3 Moderating effects: Customer base characteristics

Business-to-business companies are often more dependent and networked with their customers compared to companies that function largely in consumer

markets. In this research, dependence on current customers refers to "the extent that a business unit's main outputs, products and services are controlled by a relatively few customers (Achrol & Stern 1988; Paswan, Dant & Lumpkin 1998). It is proposed that companies that are more dependent on their customers are more willing to collect more information about their current customers and to use this information to maintain their customer relationships. Figure 6 depicts how dependence on the current customer base modifies the relationship between customer information usage and seller's customer performance. Therefore, it is proposed:

H7a: Dependence on current customers strengthens the relationship between action-oriented customer information usage and customer performance.

H7b: Dependence on current customers strengthens the relationship between knowledge-enhancing customer information usage and seller's customer performance.

H7c: Dependence on current customers weakens the relationship between symbolic customer information usage and seller's customer performance.

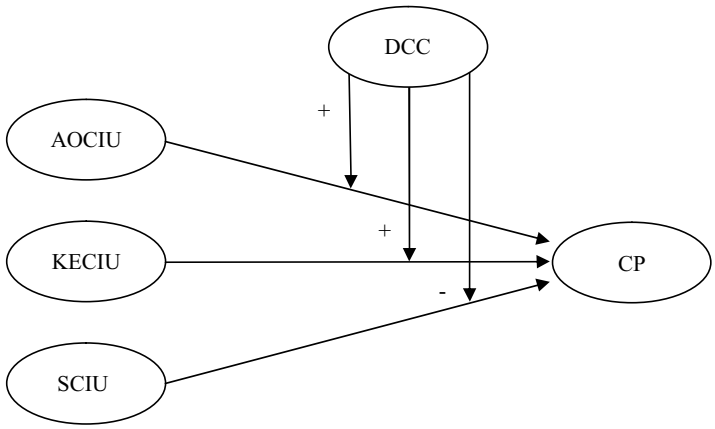

Figure 6 Moderating effects of dependence on current customers

The companies with a diverse customer base need to collect more information on their customers than companies with more homogenous customer bases (e.g. Srinivasan & Lilien 1999). In this research, *heterogeneity of current customer base* simply refers to "the extent to which the customers

of a given company are different from each other" (Srinivasan & Lilien 1999; Anil 1998). Customers can differ from each other in terms of needs and preferences, size, and profit potential for the seller company.

Srinivasan and Lilien (1999) found that, in business-to-business markets, companies with more heterogeneous customer bases benefit from customer information management more than companies with more homogenous customer bases. Based on their field research, Morgan et al. (2005) proposed that, in highly heterogeneous customer markets, customer information usage might distinguish a company's ability to understand and effectively segment its markets, and deliver higher customer satisfaction levels to different groups of customers. Figure 7 illustrates how heterogeneity of the current customer base modifies the relationship between customer information usage and customer performance. Therefore, it is proposed:

> *H8a: Heterogeneity of customer base strengthens the relationship between action-oriented customer information usage and seller's customer performance.*
>
> *H8b: Heterogeneity of customer base strengthens the relationship between knowledge-enhancing customer information usage and seller's customer performance.*
>
> *H8c: Heterogeneity of customer base weakens the relationship between symbolic customer information usage and seller's customer performance.*

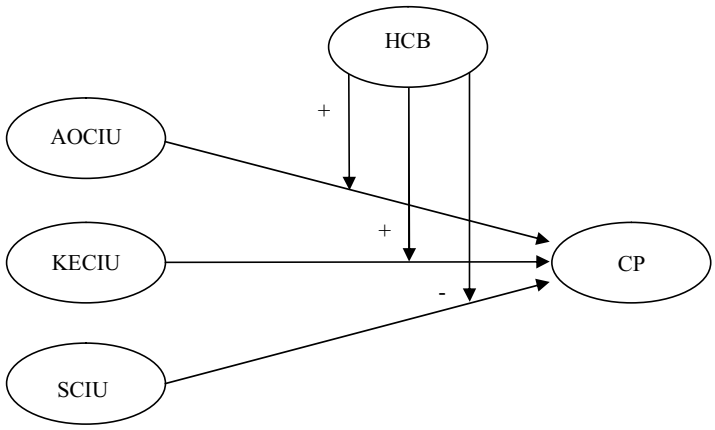

Figure **7** Moderating effects of heterogeneity of current customer base

5 METHODOLOGY

This chapter discusses research methods used in both the pilot study and main empirical study. This chapter begins with the description of the research method, survey, and research design. The data collection process in the main study will be described after that. Last, data analysis methods will be discussed.

5.1 Research methods and the stages of empirical study

Research methods help and supervise the researcher in conducting her/his research (Järvinen & Järvinen 2000). They can be viewed as tools used to find answers to research questions at hand or as Arbnor and Bjerke (1996) state that methods are guiding principles for the creating of knowledge. They continue that, in order for these "principles be effective, they must 'fit' both the problem under consideration, and the ultimate presumptions held by a creator of knowledge."

An empirical part of this research adopted the discovery-oriented approach (Menon, Bharadwaj, Adidam & Edison 1999). This approach includes utilizing both insights from the current literature and field, and testing the model proposed empirically. In this research, the conceptual model and hypotheses were developed based on literature review and the pilot study. After the first literature review on information use in the fields of marketing, Knowledge Management and Customer Relationship Management, the researcher conducted the pilot study, which consisted of field interviews. There was a lack of empirical research related to studying customer information usage in the business-to-business context (Srinivasan & Lilien 1999; Morgan et al 2005), so that gaining insights from the field was necessary in order to build a research model and testable hypotheses. By conducting the pilot study, the researcher was able to understand the practitioners' point of view on customer information. At the second stage of the empirical research, in the main study, multi-respondent data were collected from 114 companies, and the research model was with quantitative methods. The third stage in the discovery-oriented approach is going back to the field to conduct interviews, and to look for answers to controversial findings in the second stage of the research.

5.2 Pilot study: Exploring customer information usage in business-to-business markets

The pilot study had a very important role in this research project. Its main purpose was to gain practical insights into customer information usage and CRM systems in business-to-business companies. The pilot study also helped in developing the final research questions, research model, and in finding the focus for the main empirical part of the study. From theoretical point of view, the pilot study findings were used to extend further the key concepts, customer information and its usage, and to modify measures for these constructs.

5.2.1 Methods of the pilot study

The case study method was considered a suitable research method to gain new insights into customer information usage. In this research, the pilot study was in supportive role and it did not produce generalizable results by itself.

Yin (1994) defines the case study method as "an empirical inquiry that investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used." Case studies are heuristic by their nature: "they can bring about the discovery of the new meaning, extend the reader's experience, or confirm what is known"[5] (Willis 2007). Case study is a viable research approach in the areas that are fairly unexplored (Eisenhart 1989), such as customer information usage in business-to-business context.

In case study research, it is important to choose a case or cases carefully because often only a few cases are selected for one research project. Flyvbjerg (2006) states that the sampling of the cases is often done in an information-oriented way, where the purpose is to maximize the utility of information from small samples or single cases. This method refers to selecting cases based on expectations about their information content. In this research, the researcher selected cases (companies) that were different from each other based on the size, industry, and current customer base. In addition, cases were selected from two countries, in Finland and in the U.S., to explore possible cultural differences[6].

Finding suitable companies to participate in academic research is never an easy task. Especially when research deals with current, sensitive research

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[5] Original source: Merriam, H. (1998) *Case Study Research in Education: A Qualitative Approach.* Jossey-Bass. San Francisco.

[6] However, this was not the key interest in this research.

topics, such as customer information usage, companies might not be willing to provide information. The researcher was able to gain access to the companies through personal connections in both counties. Table 5 summarizes the basic information about the companies that participated in the pilot study. Companies requested to stay anonymous; therefore, they are labeled as Companies A-E and described with general terms only. Companies A, C and D are serviced-focused, and companies B and E can be described as more product-focused.

Table 5 Basic information about the companies in pilot study

Company	Description, products/services offered & number of current business customers
A	• A provider of a wide range of business-to-business services such as security services • Highly customized services and products • Large current customer base (more than 1000)
B	• A software development company • Standard and customized products and some services included in addition to products. • Moderate current customer base (>100)
C	• A utility company • Provides mainly standardized services • Very large current customer base (>10,000)
D	• A transportation company • Provides both standardized and customized services • Very large current customer base (>10,000).
E	• An electronics company • Provides customized products and support services • Very small current customer base (<10)

Company A is a provider of a wide range of business-to-business services. Company A has functions in eight countries in Europe, and it is headquartered in Finland. Current customer base is large. A vast majority of the current

customer relationships are long-term, i.e., 3–5 years. Company A's customer base is very diverse including customers from numerous industries and from private and public sectors. Therefore, there are many potential customers in the market.

In the past few years, the industry regulations in Company A's industry concerning customer data have dramatically changed, which has forced many companies to implement a new CRM system in order to manage their customer database and, through that, customer relationships. Company A had implemented a new CRM system that is a part of their organization-wide Enterprise Resource Planning System. Company A is expecting more analytical capabilities from the new system and more organized customer information management. Currently, customer information is stored in various systems in different units, which makes the usage and integration of customer information very challenging and time-consuming.

Company B is a middle size business-to-business software provider in Finland. Company B has offices in eight countries around the world. Company B currently has a moderate size customer base, and a majority of the current customer relationships are long-term. Some customer relationships have existed since the company was established. Company B's customer base is diverse because it provides the different types of financial software for numerous industries. In Company B, customer information concerning of current customers is stored in three different systems that are frequently used by employees and managers. Company B emphasized the cooperation between country offices and different departments in sharing and using customer information. Also, a new CRM system also was implemented recently.

Company C is a large utility company that functions in both business and consumer markets in the U.S. Company C uses various customer information management systems and it heavily realies on IT in converting customer data into customer information. The customer base of Company C is very diverse. It has a very large current customer base with both long- and short-term customer relationships. Due to its offerings, there are many potential customers in the Company C's target market.

Company D is a large U.S.-based transportation company that provides services for both business and consumer customers worldwide. Company D conducts an extensive amount of research on their current and potential customers every year by using both qualitative (focus groups and personal interviews) and quantitative research methodologies (surveys etc.). Company D has a very large, heterogeneous customer base (business customers). Basic customer data are stored in one data system, and analyzed customer information is stored in various systems within a company.

Company E is a part of a global electronics company that has functions on every continent. This company provides standardized products and support services for these products. Due to the nature of their business, they have a very few customers in each region, i.e. under 10 customers. Company E's customer base is homogenous, and customer relationships are always long-term. Company E does not have a traditional CRM system. Customer information is stored in one customer database, to which everybody in the company can access.

5.2.2 Data collection in the pilot study

The key element of the case study approach is the use of multiple data sources (Yin 1994). For instance, case study data can include observation, interviews, historical and narrative sources, and a variety of quantitative data sources such as surveys (Willis 2007). Field interview is common data collection method in case study. They can be highly structured, semi-structured, or open (Willis 2007). Interviewing is a very effective and flexible data collection method because the researcher can confirm her/his interpretations and present new questions during the interview (Hirsjärvi et al 1997). Using interviews as a primary data collection method also has some problems and challenges (Hirsjärvi et al 1997). For instance, it usually takes much time and effort to arrange, prepare, and conduct interviews. In addition, the researcher often has to motivate the informant to talk about the right issues during the interview. Before the interviews, the researcher familiarized herself with each company through website and business magazines. There was much information available about all of the companies that participated in the pilot study. This preparation decreased the time for background questions in the beginning of the interviews.

In this pilot study, data were collected with open face-to-face interviews. The researcher had the list of themes, which were developed based on the literature review. Topics such as challenges in implementing CRM systems, cross-functional meetings dealing with customer information, and key challenges in using customer information were discussed. The interview guide used, (which can be found in Appendix 2), was emailed to each informant one week prior to the interview. Although the purpose was to ask the same questions of all the informants to cover all the themes, informants were also encouraged to speak freely about customer information usage and CRM related issues. Despite using an interview guide, every interview was unique. At the end, more themes were covered in the interviews than in the research model in main study. The questions were only asked about a company's

business customers, since two of the companies provide services and products for both consumers and businesses. People from different managerial levels and functions (marketing, sales, information management, and market research) were interviewed. All interviews, except one[7], were recorded, and notes were taken during the interviews.

The researcher visited companies in person and conducted all the interviews. The Field interviews started in Finland in February 2005, and the last interview, an expert interview, was conducted in Atlanta in May 2006. Ten people in two countries (Finland and the U.S.) in five companies were interviewed. Two people were interviewed twice, i.e. 12 interviews were conducted. One interview was an expert interview, and therefore, this company is not listed in Table 5. Table 6 provides the basic information about the informants and the interviews.

Table 6 List of the informants and interviews

Company	Informant(s)	Place, date, duration of interview
A	CEO VP of Sales VP of Information Management Marketing Manager Sales Manager	Vantaa, 1.2.2005, 45 min Vantaa, 1.2.2005, 1 h Vantaa, 1.2.2005, 1 h Vantaa, 5.12.2004 1 h & 1.2.2005, 45 min Vantaa, 1.2.2005, 40 min
B	VP of Marketing & Product Development	Espoo, 12.6.2005, 1 h 15 min
C	Director of Marketing Services	Atlanta, 3.8.2005 & 11.10.2005, 45 min & 1 h
D	Senior Manager Corporate Marketing Research	Atlanta, 21.3.2006, 1 h 30 min
E	Senior Consultant	Atlanta, 24.3.2006, 1 h 10 min
F	CEO (en expert interview)	Atlanta, 21.5.2006, 1 h

[7] Digital recorder did not work when I arrived to interview the location.

There are a number of methods used to analyze qualitative data such as using key words or themes to reduce and organize data (Huberman & Miles 1984). In the pilot study, taped interviews were transcribed, and after that, texts were organized according to the themes in the interview guide. On the same day, a taped interview was transcribed into MS Word.

5.3 Main empirical study: Survey

The main empirical part of this research project (main study) used the survey research method. Survey research has derived considerable credibility from its widespread acceptance and use in academic institutions worldwide (Rea & Parker 1997). It is often used to capture data from business organizations (e.g. Malhotra & Grover 1999) and it traditionally has been a primary research method in academic marketing research. The survey method is a theory-testing research approach (Järvinen & Järvinen 2000), whose ultimate aim is to contribute to theory development (Malhorta & Grover 1999).

In a typical survey, a researcher selects a sample of respondents and administers a standardized questionnaire to them (Babbie 2007). The most common types of surveys are mail surveys, phone surveys, personal interview surveys (Anderson et al 2002), and, recently, online surveys. The questions in the survey are derived from theory, a research model or from a theoretical framework.

Survey research has three distinct characteristics (Malhorta & Grover 1999). The first characteristic is the collection of information by asking people for information in some structured format such as using questionnaire. Second, survey research uses quantitative methods to study relationships between independent and dependent variables. Third, in survey, data are collected from a sample, i.e., a fraction of the population. The purpose of survey research method is to allow the researcher to generalize about the large population by studying only a small portion of that population (Rea & Parker 1997).

Survey research is a suitable research method for many types of research questions and research purposes such as descriptive, explanatory, and exploratory (Babbie 2007). For instance, the survey method can be used to seek answers to research questions such as “What factors influence people’s choice of banks?” or “What proportion of drivers observes seat belt laws?” (Rea & Parker 1997).

The main purpose of the research was to examine how customer information usage affects customer performance, and the secondary purpose was to explore the effect of CRM on customer information usage. Therefore, survey method was a suitable method for this research.

5.4 Research design

Research design refers to the strategy for answering research questions; it is a framework or blueprint for conducting a research project (Malhotra 2007). The researcher has to formulate the purpose of the research, a unit of analysis, and time dimension of the research (Babbie 2007).

A unit of analysis refers to what or who is being studied. In social research, a unit of analysis can be, for instance, an individual, a group, an organization, or a social interaction. When studying customer information usage, the relevant units of analysis would be an individual (e.g. Celuch et al. 2001), a department such as marketing or R&D (e.g. Maltz & Kohli 1996), or a business unit or company (e.g. Moorman 1995). In this research, a unit of analysis was a business unit or a company. This means that a business unit/company is the key user of customer information.

Time dimension is viewed as an important part of the research design because the time sequence of events and situations is critical to determining causation, and it also affects generalization of the research findings (Babbie 2007). There are two primary options available: cross-sectional and longitudinal research. A cross-sectional study focuses on examining a phenomenon at a single point in time, whereas a longitudinal study involves examining and collecting data about a phenomenon at different points in time. This research was a cross-sectional study, i.e., customer information usage was determined at one point in time, although this research also attempted to examine causal relationships between variables such as the relationship between customer information usage and customer performance. However, in order to test the hypotheses proposed in this research, the survey method and cross-sectional research design were the most suitable as well as the most practical options.

5.5 Data collection process in the main empirical study

There are many methods for collecting data through surveys, such as mail and personal interview questionnaires. In this research, primary data for the statistical analysis were collected with two online questionnaires among Finnish business-to-business companies. In addition, secondary data were collected from Fonecta Profinder database. Next, the data collection process is described in detail.

5.5.1 Data collection design

In this research, the main interest was to study the organizational phenomena of marketing, i.e., the unit of analysis was an organization, a department, or a business unit, which faces many methodological challenges (Phillips 1981). One of the challenges is common method bias. In particular, common method bias concerns arise when data are collected from the same informant, i.e., a key informant, for both independent and dependent variables (van Bruggen, Lilien & Kacker 2002). In this research, common method bias would have been a major concern if the same informant had responded to questions considering a company's customer information usage, CRM, and customer performance. Therefore, data were collected from two different informants from each company/business unit. This improved the reliability of the results. Informants were contacted by email and were asked to reply to the first part of the questionnaire. In addition, they were asked to forward the second part of the questionnaire to another informant within a company. Researcher also collected secondary data.

Figure 8 shows how questions concerning the latent constructs were divided between the two questionnaires and secondary data. The boxes with solid lines represent the questions of latent constructs that were measured in the first part of the questionnaire, the boxes with dashes represent the questions of the latent constructs that were measured in the second part of the questionnaire, and the box with dotted line represents secondary data collected. Respondents who filled out Part 1 of the questionnaire answered questions about customer information usage and what types of customer information their company regularly collects on its current business customers. Respondents who filled out Part 2 of the questionnaire answered questions about CRM systems, customer base characteristics, and the company's customer performance. An objective performance measure, profits in 2005, was collected from Fonecta Profinder database. The purpose of collecting secondary information was to validate self-reported customer performance measures.

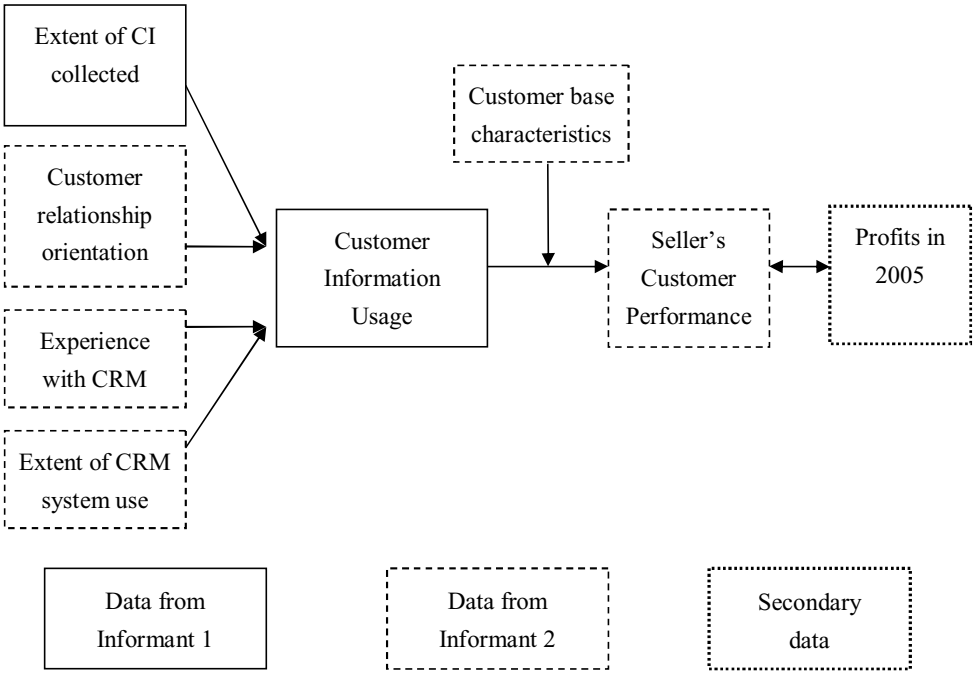


Figure 8 Research model and data collection design

5.5.2 Sampling and potential respondents

A working population for this research came from companies functioning in business-to-business markets in Finland. The sample frame was derived from two Finnish databases Bluebook.fi and later Fonecta Profinder[8]. This research was a cross-industry study, and targeted to companies outside of the biggest 500 companies list in Finland[9]. The following criteria were used to determine the sampling frame:

[8] Bluebook.fi was merged to Fonecta ProFinder in summer 2006.
[9] Talentum 500 list of the biggest 500 companies in Finland in 2005.

1) turnover of EUR 10–70 million in 2005,
2) a number of employees 50–300,
3) privately owned and operated,
4) company functioning exclusively or primarily in business-to-business markets, and
5) contact information of preferred respondents available (preferably email).

The researcher went through the original list drawn from the database one by one, and created the list of companies, their turnover, and emails. This was a labor-intensive process because there were many companies without contact and/or turnover information. In many cases, this information had to be searched from a company's website and/or the Internet. This type of sampling is called purposive sampling. The final list consisted of 1,413 companies/business units.

Suitable respondents for this research were identified as people who are familiar with customer information use and management and CRM systems in their business unit or companies. The positions such as Marketing or Sales Manager, Knowledge Manager, VP of Sales or Marketing, and in smaller firms CEOs also were identified as potential respondents.

This research used the snowball sampling method to sample respondents for the second part of the questionnaire. Snowball sampling is one of the non-probability sampling methods and it is beneficial in situations where it is difficult to identify respondents (Rea & Parker 1997). In this research, a person who received the first part of the questionnaire (with cover letter) was asked to forward the link of the second part of the questionnaire to somebody else within her/his business unit who could answer questions on the company's CRM systems and customer performance. An alternative option would have been to email two questionnaires to two people in each company.

5.5.3 Collecting data with online questionnaires in business-to-business marketing research

Data were collected with email questionnaires, which have become very popular among both academic researchers and businesses (Boyer, Olson, Calantone & Jackson 2002; Huang & Liaw 2005).

Couper, Kapteyn, Schonlau, and Winter (2006) state that "researchers are increasingly looking to the Internet as part of a mixed-mode strategy, particularly in panel surveys, where sampling and recruitment are done using traditional methods". Conducting data collection with email or web

questionnaire offers many advantages. Researchers who have compared the data collection process by both email and mail surveys often find that email provides a number benefits in terms of faster response speed, better response quality, reduced time for data processing, and affordability (Smee & Brennan 2000; Boyer et al. 2002). However, the most obvious advantage of using an online questionnaire is its affordability. If the researcher has software available to design the questionnaire and conduct data collection, the costs are reduced from thousands of euros to almost free (e.g. Huang & Liaw 2005; Babbie 2007). In this research, Webrobol's online questionnaire software was used, and the service was provided by Turku School of Economics.

Online surveys enable researchers to conduct data collection faster as compared to traditional paper-pencil questionnaires (Huang & Liaw 2005; Smee & Brennan 2000). When using online questionnaires, responses can be expected within days, whereas collecting data with the traditional mail questionnaire usually takes weeks for each round. Researchers have also found that electronic surveys have fewer missing responses than paper-pencil questionnaires (Boyler et al 2002; Kielsler & Sproul 1986). Online questionnaires seem to produce better response quality. This was also the case in this research: there were very few missing data points in the data. Using an online questionnaire also facilitates transferring data from the questionnaires to statistical programs, and therefore, it can considerably reduce the possibility of data entry errors. Webrobol's online questionnaire software provides the data collected in an Excel spreadsheet, which is easy to transfer to any statistics software.

In general, an online questionnaire is more flexible and mobile than a paper-pencil questionnaire. In this research, a person who received the first part of the questionnaire (with cover letter, Appendix 3) was asked to forward the link of the second part of the questionnaire to somebody else within her/his business unit. Using an online questionnaire was viewed to be easier to forward than a paper questionnaire. However, for instance Maltz & Kohli (1996) successfully collected multi-response data with the traditional paper-pencil questionnaire.

Despite the obvious advantages, there are also some disadvantages and potential problems in using online surveys. Some researchers suggest (e.g. Huang & Liaw 2005) that respondents tend to reply to email questionnaires better than traditional paper-pencil questionnaire, whereas others suggest the opposite (Smee & Brennan 2000; Couper et al. 2006). Depending on the

research design, two different surveys, online vs. offline, can also produce different results (Sethurama, Kerin & Cron 2005: conjoint analysis study[10]).

5.5.4 Attempts to improve response rate in online survey

Gaining the attention of the potential respondent is often the most difficult and crucial part of any data collection, and nowadays, collecting survey data in business-to-business markets is very challenging. Methods that are successful for improving the response rate in consumer markets are not always effective when surveying business people (e.g. Jobber 1986). In the current literature, a number of tested methods to improve response rates prior to, concurrent with and after mailing (or sending email) the survey can be found (Jobber & O'Reilley 1998). In this research, a combination of methods and techniques to improve the response rate were used.

The effect of preliminary notification techniques, such as telephone calls or sending a post card before mailing (or emailing) the survey, are common techniques to attempt to improve response rates, but results of using these methods are inconclusive (Jobber & O'Reilley 1998). Pre-notification by phone sounds very appealing when conducting online survey because if a respondent does not know to expect the survey email, it can be easily viewed as SPAM email. In this research, the researcher emailed the survey from her university's email account hoping that this would limit a SPAM email concern. In addition, a pre-notification phone call was tested in the pilot survey, but, because it did not have any effect on responses, it was not used in the main data collection stage.[11]

There is a range of methods that can be used concurrently with mail or online questionnaire to convince potential respondents to fill out the survey or, in the case of an online survey, even open the link to the survey. For instance, in the business-to-business setting, the effect of both monetary (check or cash) and non-monetary incentives (sweepstakes, unspecified gifts, the promise of sending the results, donation for the charity, etc.), the personalization of the cover letter, anonymity, and stamped envelopes to response rates have been examined by a number of researchers (Jobber & O'Reilly 1998). In this research, a cover letter email (Appendix 3) was emailed from the researcher's university's email account to each potential respondent individually. This was necessary because each company was given a unique code that was later used

[10] Sethurama et al. (2005) compared two data collection methods in the same study (conjoint analysis).

[11] An interesting point was that informants would have liked to be interviewed on the phone instead of filling out the questionnaire.

to combine data from two questionnaires. In the cover letter email, the research project was described, and the importance of the respondents was emphasized. In addition, the respondents were told that an individualized summary report to each company would be emailed, if responses to both parts of the questionnaire were received.

The questionnaire itself – its length and design – affects the final response rate. Obviously, short questionnaires are preferred over long ones among business respondents (Greer, Chuchinprakarn & Seshadri 2000). In this research, the two-questionnaire design helped in reducing the length of the questionnaire considerably. The aim was to be able to fill out the questionnaire in less than 15 minutes.

Respondents often find online questionnaires more user-friendly than paper-pencil questionnaires (Smee & Brenna 2000). For instance, in an online questionnaire, it is easy to screen respondents by directing respondents to the next question according to their responses. Smee and Brenna (2000) state that the use of the web allows the researcher to use features such as drop-down boxes, option buttons, and check boxes in a questionnaire that creates a very user-friendly design. In this research, drop boxes, etc. were used in the online questionnaire when asking about the number of personnel and the experience with CRM systems, and only one question was shown on the screen at a time.

Follow-up with non-respondents has been shown to increase the overall response rate in mail questionnaires (Fox, Robinson & Broadley 1998). The common follow-up techniques in business-to-business markets are telephone calls to non-respondents and sending a reminder letter with questionnaire. In this research, two reminder emails were sent to non-respondents. This was a very successful technique. Timing of the reminder emails, September, might have also played role.

5.5.5 Developing online questionnaires and conduction of pilot testing

The survey instrument used in this research was an online questionnaire with two distinct parts. The majority of the questions were assessed as multi-item measures, and they were scored with a Likert type seven-point scale, ranging from “strongly disagree” (1) to “strongly agree” (7). The measures for the extent of customer information collected and stored and experience with CRM systems were measured with single item scales. The following process of developing and testing the questionnaires is described:

1. Creating the pool of items for customer information usage constructs and collecting and modifying the items for other constructs the research model based on previous literature and field interviews.
2. Academic evaluation of the customer information usage items contained in the online questionnaire (in English).
3. Translating the questionnaires from English to Finnish.
4. Academic evaluation of the measures and questionnaires in Finnish.
5. Pre-testing the online questionnaires with the practitioners.
6. Conducting the pilot survey in the target population.

Customer information usage items were developed based on previous research in the field and findings from the pilot study. The pool of customer information usage items was tested with academic experts before conducting the pilot survey (Appendix 4). The purpose of this procedure was to try to eliminate the confusing items and to test how new items would be understood. Other measures for constructs in the model were established measures in marketing research, and therefore, they were not pre-tested.

For the pre-testing customer information usage items, the online questionnaire included the definition of each construct and the items (a total of 36) in random order. Respondents were asked to match the definition (action-oriented, knowledge-enhancing, or symbolic use) with an item in the list. There was also the option "Can't tell." Pre-testing was conducted in the first week of May in 2006. Fourteen people filled out the online questionnaire: three marketing professors, one CIS professor, and nine marketing and computer information systems PhD students at the Georgia State University in Atlanta, Ga.

The pre-testing revealed that the most difficult items were the items corresponding to symbolic customer information usage, i.e. these items received the most "Can't tell" marks. Items were excluded from the pool, if there was less than 75% agreement among respondents. As a result of the pre-testing, ten items to measure action-oriented use of customer information, seven items to measure knowledge-enhancing use of customer information, and six items to measure symbolic use of customer information were chosen (23/36), and three of these items were reworded.

The next step was to translate the measures in the questionnaire from English to Finnish. A professional translator was used. After that, the academic evaluation of the Finnish questionnaire for all items was conducted. Two people from the Turku School of Economics, one Marketing Professor, and one Associate Professor in International Business, and one researcher from the University of Lappeenranta, evaluated the Finnish translations with

the researcher. Back translation from Finnish to English was not done although this is a recommended procedure (e.g. Brislin 1970).

The next step was to test the questionnaires online. Pre-testing of instruments in the field can serve as a reality check indicating to the researcher how well conceptualizations of the problem match the actual experience of the practitioner (Malhotra & Grover 1999). Five people working in various industries were asked to test the Finnish questionnaires. All the testers speak Finnish as their mother tongue and they were familiar with customer information usage in their organizations. The testers gave feedback on the structure, time required to fill out questionnaire, and the overall function of the questionnaire. Pre-testers suggested adding pull-down options for instance when asking personnel, and they had suggestions for the formatting as well.

The last step in developing and testing the questionnaires was the pilot survey in the target population. The main purpose of it was to confirm that data collection design was possible. In addition, the pilot survey was done to determine how large the sample frame should be.

The timing for the pilot survey was probably the worst possible in Finland, mid – late June. A personalized email with the cover letter and two web links were sent to 75 companies on June 16th, and the reminder were sent June 26th. Finally, 69 emails went through. Eleven responses for the first part of the questionnaire and six responses to the second part were received. This yielded a response rate of 16% for the first questionnaire, and 54% for the second questionnaire.

5.5.6 Emailing process and the final sample

A total of 1,413 mass-customized emails were emailed in five groups starting in the middle of August 2006. Each group had 197–325 companies. An email included the cover letter, an individual code for each company to merge data from two questionnaires afterwards, and two web links to the questionnaires. Two reminders were emailed to non-respondents. In addition, reminders were emailed to those people who replied to the first part of the questionnaire, but for whom the second part of the questionnaire was not filled out.

Table 7 provides the summary of the sample frame and final sample. In all, 12.5% of the emails could not be delivered. The reasons for no delivery included the email error reports such as “user could not be recognized” and “reason of delivery failure could not be determined.” Therefore, the effective maximum sample was 1,240, which was used to calculate the response rate for the final sample. For part 1 of the questionnaire, 180 responses were received and, for part 2, 149 responses yielding the respective response rates of 14.5%

and 12%. A total of 82.8% of the companies in the sample replied to both parts of the questionnaire, which is a fairly successful result. After screening the responses, 140 usable pairs were received, yielding the response rate of 11.3% for the final sample.

Table 7 Summary of the sample frame and final sample

	Number of companies	Response rate
Sample frame	1,413	
Not reached	173	
Effective working population	1,240	
Responses to part 1	180	14.5%
Responses to part 2	149	12.2% (82.8%)
Excluded after screening	9	
The final sample (both parts of the questionnaire)	*140*	*11.3%*

A number of steps were taken to confirm that two different people from each company/business unit filled out the questionnaires. The first step was to compare the emails of the two respondents, if both of them were available. If the emails were different, the pairs were matched. In the situations where an email for the part 2 questionnaire was not available, the respondent positions, tenure, and experience in the industry were compared. For instance, there were respondents who held the same position, such as sales manager, but whose tenure and experience in years were different. Nine pairs were excluded in the screening process. This can be viewed as a successful result.

The final response rate of 11.3% is low, but this was expected due to the data collection design and maybe due to timing, after summer vacations. Low response rates of surveys have been a problem with all types of surveys in business-to-business markets, online and offline. The ultimate problem is that data from surveys with low response rates are likely to be affected by self-selection bias (Wilson 1999), which refers to any situation in which individuals select themselves into a group. Wilson (1999) states that this is often a problem in marketing surveys. The early respondents are likely to be more interested, involved, and/or experienced with the topic as compared with non-responders, and this can lead to misleading results. However, the reality

of conducting survey research in business-to-business settings can be very different from textbook examples for adequate response rates. Recent studies in the business-to-business context have typically yielded response rates under 25% (e.g. Eggert, Ulaga & Hollmann 2007: 21.6%; Lee, Chen, Kim & Johnson 2007: 18.2%), and even lower than that (Wilson 1999).

5.6 Operationalization of the constructs

In the main empirical study, the constructs were operationalized by using previous measures and modifying them based on the findings from the pilot study. The majority of the constructs were latent constructs measured with multi-item measures. Questionnaires consisted of statements that respondents rated on a seven-point scale, ranging from "strongly disagree" (1) to "strongly agree" (7). Two of the constructs in the research model were measured with a single item scale. *The extent of customer information collected and stored* was measured by asking the types of customer information each company regularly collects and stores, and the responses were summated (range: 0–11). *A company's experience with CRM systems* was established in years with CRM systems. There were three options to choose from: 1) less than 3 years, 2) 3–6 years, and 3) more than 6 years.

Action-oriented use of customer information refers to "changes in the user's activities, practices, or policies that can be directly linked to the findings and implications of customer information available" (Menon & Wilcox 2000). It is direct use of customer information. Action-oriented customer information usage is measured with ten items modifying from four previous measures used in marketing (Moorman 1995; Srinivasan & Lilien 1999; Diamantopoulos & Souchon 1999; Jayachandran et al. 2005). Some of the items were reworded based on the pilot study to be consistent with the business-to-business setting. The items emphasized the direct application of information such as "we use customer information to up-sell new products and services to our current customers" and "we use customer information in our everyday interaction with our customers". Table 8 summarizes the measures for action-oriented customer information usage.

Table 8 Operationalization of the action-oriented customer information usage

Construct	Items	References
AOCIU	1. We use customer information for creating future plans. 2. We use customer information to identify appropriate channels to reach our customers. 3. We use customer information in developing new services and products. 4. We use customer information to up-sell new products and services to our current customers. 5. We use customer information to customize our offers. 6. We use customer information to create customer relationship strategies. 7. We use customer information to serve our customers better. 8. We use customer information in our everyday interaction with our customers. 9. We use customer information to create individual marketing messages. 10. We use customer information to solve our customers' problems.	Diamantopoulos & Souchon 1999; Srinivasan & Lilien 1999; Moorman 1995; Jayachandran et al. 2005; pilot study interviews

Knowledge-enhancing customer information usage refers to "results in changes in the user's knowledge and understanding of the issues and themes of customer information available" (Menon & Wilcox 2000), i.e. indirect information usage. The items for this construct were modified from the previous research to correspond to organizational level knowledge-enhancing information usage (Moorman 1995; Srinivasan & Lilien 1999; Diamantopoulos & Souchon 1999). There were nine original items to measure this construct (Table 9) such as "We use customer information to educate our employees such as customer case workshops" and "We use customer information to assess the lifetime value of our business customers". Table 9 summarizes the measures for knowledge-enhancing customer information usage. It should be noted that action-oriented and knowledge-enhancing customer information usages are expected to be highly correlated with each other (see Moorman 1995; Maltz & Kohli 1996).

Table 9 Operationalization of the knowledge-enhancing customer information usage

Construct	Items	References
KECIU	1. We use customer information to educate our employees, such as in customer case workshops. 2. We provide analyzed information to our customers of their purchases and actions. 3. We use customer information to learn about our current customers' needs and wants. 4. We use customer information to assess the lifetime value of our business customers. 5. We use customer information to analyze trends of the markets. 6. We often summarize customer information by reducing its complexity, for instance, by writing generic reports. 7. Our customer information is a central input in our business planning. 8. We use customer information to segment our customer base in new ways. 9. Customer information has an important role in managing customer relationships.	Diamantopoulos & Souchon 1999; Moorman 1995; Maltz & Kohli 1996; Srinivasan & Lilien 1999; pilot study interviews

The third type of customer information usage examined in this research was *symbolic customer information usage,* which refers to using information for its appearance's sake, not to bring valuable insights to the decision-making, but simply because customer information exists. The scale of Diamantopoulos and Souchon (1999) study was used as the basis for the symbolic customer information usage scale. Pre-testing this scale revealed some problems, and therefore, some of the items were re-worded from the original scale. Table 10 shows six original items that measured symbolic customer information usage.

Table 10 Operationalization of symbolic customer information usage

Construct	Items	References
SCIU	1. We sometimes manipulate customer information in order to justify decisions that are really made on the basis of instinct. 2. In our business unit/company, customer information is distorted when it is passed on. 3. We use customer information to justify decisions already made. 4. We do not really use customer information in marketing decisions that we originally asked and collected. 5. Customer information has a bigger role in marketing and sales decision-making than does intuition. (R) 6. We often use customer information to back up hunches before making a decision.	Diamantopoulos & Souchon 1999; pilot study interviews

Table 11 presents the measures for the CRM related constructs in the research model. *Customer relationship orientation* refers to the culture of the company being customer-oriented, and was measured with four items. Jayacharayan et al. (2005) developed the scale, which reflects the cultural propensity of the organization to undertake CRM. This scale focuses on customers as a valuable asset for the business unit/company, and it recognizes senior management's support of being customer-oriented, and encourages focusing on customer relationships. This was also confirmed in the pilot study.

Extent of CRM systems usage refers to "the extent to which CRM systems are used within a business unit/company" (Jayachandran & Sharma 2003). This scale viewed ease of use, training, and the central role of the CRM system in customer information management. In the pilot study, companies that had recently implemented or harmonized CRM systems emphasized the importance of training and usability of the system during and after implementation phase.

Table 11 Operationalization of the CRM related constructs

Construct	Items	References
CO	1. In our business unit, retaining customers is considered to be a top priority. 2. In our business unit, we are encouraged to focus on customer relationships. 3. In our business unit, customer relationships are considered to be a valuable asset. 4. Our senior management emphasizes the importance of customer relationships.	Jayachandran et al. (2005)
CRMu	1. Our CRM system or equivalent is easy to use. 2. Our employees are trained to use the CRM system effectively. 3. Users of our CRM system are provided with the necessary technical support in our business unit/company. 4. CRM system or equivalent has a central role in our customer information management. 5. CRM system or equivalent is used in everyday work in our business unit/company (in marketing and sales).	Adapted Jayachandran & Sharma (2003)

This research proposed *seller's customer performance* as a key outcome of customer information usage. The measures from previous literature were applied (Table 12). Items measuring customer performance considered how well a company has been able to 1) improve its customer satisfaction, 2) retain current customers, and 3) increase its customer profitability compared to its competitors (adapted from Moorman & Rust 1999; Narver & Slater 1999).

There are problems when testing dependent variables with perceptual measures only. The use of objective measures would be preferable. A number of researchers have found that company's customer performance is positively associated with the profitability of the company (e.g. Mithas et al. 2005). Therefore, secondary data, profits of the sample companies in 2005, were collected from Fonecta Profinder database to confirm self-reported performance measure. Correlation analysis confirms that perceptual (seller company's customer performance) and objective (profits in 2005) measures are positively correlated (.366, significant at the level .01).Table 12 shows the summary of the profits (%) for the sample companies.

Table 12 Profits of the sample companies in 2005

Profits (%) 2005	Number of Companies	Percent of the sample
< 0%	15	16%
0.1–5%	29	32%
5.1–9.999%	24	26%
10%+	23	25%
Total	*91*	*100%*
Average: 5.21% Range: -25%–28.6%		

There were two moderating variables proposed in the research model: dependence on current customers and heterogeneity of current customer base. Measures for these construct were derived from previous research, and, in addition, new items were added. Table 12 presents the items for customer performance and customer base characteristic constructs.

Table 13 Operationalization of customer performance and customer base characteristic constructs

Construct	Items	References
CP	How has your business unit/company has succeeded in the past three years compared to your competitors… 1. …in attaining customer satisfaction? 2. …in keeping current customers? 3. …in improving customer profitability?	(Moorman & Rust 1999; Narver & Slater 1999).
DCC	1. We are highly dependent on our biggest customers. 2. It would be highly problematic for us to replace certain customers. 3. There is only a limited number of potential customers for us. 4. Our business unit/company and our customers are strongly dependent on each other. 5. Establishing new, even larger customer relationships would not be a problem for us if needed. (R) 6. There are a great number of possible customers in our markets we cooperate with. (R)	(Achrol & Stern 1988; Paswan, Dant & Lumpkin 1998; pilot study interviews)
HCB	1. Our customers differ substantially from each other in terms of their sales and profit potential for us. 2. Our customers are very different from each other in terms of their needs and preferences. 3. We have very different types of customers. 4. Our customers differ substantially in their buying behavior. 5. Our customer relationships differ in terms of relationship strength. 6. Our customers differ in terms of service level they require from us. 7. Our customers differ in terms of trust and commitment.	(Srinivasan & Lilien 1999, Anil 1998, 4-7 new items)

5.7 Sample and respondent profiles

Companies in the sample differ in terms of size as follows (Table 13). An average turnover of the sample companies is EUR 44.5 million in 2005. A little more than half of the sample companies, 52.7%, have turnover less than EUR 25 million. A quarter of the companies have turnover of EUR 26–50 million, and in the rest of the sample companies, 22.2%, turnover is more than EUR 50 million.

Table 14 Turnover in 2005 (n=108)

Turnover (EUR million)	Number of companies	Percent of the sample
0–15	32	29.6%
16–25	25	23.1%
26–50	27	25%
50+	24	22.2%
Total	*108*	*100%*
Average: 44.5 Range: 2–500		

The largest portion of the sample companies, 36.8%, has 51–50 employees while 30.7% of the companies have more than 150 employees, and the remaining 32.5% have less than 50 employees (Table 14).

Table 15 Personnel in 2005 (n=114)

Personnel	Number of companies	Percent of the sample
1–50	37	32.5%
51–150	42	36.8%
150+	35	30.7%
Total	*114*	*100%*

According to Statistics Finland, small and medium size companies are those with fewer than 250 employees and annual turnover less than EUR 50 million or a balance sheet total that is no more than EUR 43 million (www.tilastokeskus.fi, 15.12.2007). In the main study, a majority of the

sample companies, 77.8%, consists of small and medium size companies, based on their turnover and personnel. In the pilot study, only one company was medium size, and others were larger companies. Therefore, the findings of the main study may be more applicable for small and medium size companies than to large companies.

Table 16 summarizes the industries represented in the final sample. The largest portion of the sample companies, 39.5%, is from the manufacturing sector. The second and third largest portions are wholesale and retail trade (17.5%) and other business services (16.7%). Other business services include a variety of services such as security services and consulting.

Table 16 Industries represented in the sample (n=114)

Industry	Number of companies	Percent of the sample
Mining and quarrying	3	2.6%
Manufacturing	45	39.5%
Electricity, gas and water supply	7	6.1%
Construction	7	6.1%
Wholesale and retail trade	20	17.5%
Transportation, storage and communication	5	4.4%
Financial intermediation	4	3.5%
Other business services	19	16.7%
Other	4	3.5%
Total	*114*	*100%*

In the sample, 79.6% of the companies are product-focused, whereas only 20.4% companies are service-focused. Table 17 lists the offerings of the sample companies in more detail. The largest portion of companies in the sample, 36.3%, offers standard products and services included with these products.

Table 17 Products/services offered (n=113)

Products/services	Number of companies	Percent of the sample
Standard products	14	12.4%
Customized products	8	7.1%
Standard products and services included	41	36.3%
Customized products and services included	27	23.9%
Standard services and products included	4	3.5%
Customized services	9	8.0%
Customized services and products included	10	8.8%
Total	*113*	*100%*

The average number of current business customers of the sample companies is 3,142. However, the range of current customers is very broad: 10–90,000. The largest proportion of companies in the sample, 40.5%, has 100–1,000 current business customers. Over a third (35.1%) of the companies has more than 1,000 business customers, and 24.3% have fewer than 100 customers. Table 18 summarizes the number of current customers of the sample companies.

Table 18 Number of current customers (n=111)

Number of current customers	Number of companies	Percent of the sample
1–100	27	24.3%
100–1000	45	40.5%
1000+	39	35.1%
Total	*111*	*100%*
Average: 3,142 *Range:* 10–90000		

The majority of the companies in the sample, 81.4% (114 companies), have a CRM or equivalent system implemented. Of the companies that participated in the survey, 43.9% had implemented CRM systems less than three years, and 57.1% had implemented these systems for more than three years (Table 19).

Table 19 Experience with CRM systems (n=114)

Experience with CRM systems	Number of Companies	Percent of the sample
0–3 years	50	43.9%
3–6 years	34	29.8%
6 years+	30	26.3%
Total	*114*	*100%*

The questionnaire cover letter indicated that suitable respondents for this research would be people who are familiar with sales, marketing, and key account management, i.e., people who use customer information in their everyday work. Table 20 provides a summary of the positions of the respondents. In the first part of the questionnaire, 50.7% of the informants hold positions in marketing or sales, and 13.5% are CEOs. The rest of the informants serve as Key Account Managers, Knowledge Managers or in other positions such as chiefs of business units. In the second part of the questionnaire, 57.3% of the informants represent marketing or sales managers, marketing or sales executives, 9% are CEOs. 34.0% of the respondents held positions such as key account managers, knowledge managers, business unit managers, and product managers.

Table 20 Position of the respondents in the business unit/company

Position	Respondents in part 1: number of respondents	Respondents in part 2: number of respondents
Marketing Manager or VP of Marketing	23 (20.7%)	18 (17.5%)
Sales Manager or VP of Sales	40 (36.0%)	41 (39.8%)
Key Account Manager/Executive	8 (7.20%)	4 (3.88%)
Knowledge Manager	2 (1.80%)	2 (1.90%)
CEO	15 (13.5%)	9 (8.7%)
Other	22 (19.8%)	28 (28.2%)
Total	*111 (100%)*	*103 (100%)*

Table 21 lists the experience of the respondents in the company and in the field. The respondent who replied to the first part of the questionnaire has, on average, over 18 years of experience in the field, and the respondents to the second part of the questionnaire (CRM systems and performance questions), has an average 17 years of experience in the field. The average work experience in the current position or company is approximately eight and half years. Based on their experience in both the field and with the current employer, respondents are knowledgeable about answering the questions.

Table 21 Experience of respondents in the field and with the current employer (n=113)

Respondent	Experience in the field (years)	Experience with the current employer (years)
Respondent 1	18.2	8.5
Respondent 2	17.1	8.8
Min. (both)	1	0
Max. (both)	40	40

5.8 Non-response analysis

Armstrong and Overton (1977) recommend that data should be screened for possible non-response bias. This was conducted by comparing the respondents and population with known values (e.g. age, income, turnover).

In this research, turnover for the target population was collected from Fonecta Profinder database and from companies' websites. An average turnover of the sample companies is EUR 44.5 million[12] (Table 22), whereas in the target population average turnover is considerably smaller, EUR 28 million (n=1,120[13]). In addition, there are more of the smallest (turnover EUR 0-15 million) and the largest (turnover more than EUR 50 million) companies in the sample than there were in the population. Sample companies are larger compared to the companies in the population, which might indicate that larger companies have been more interested in investing customer information usage and CRM systems.

[12] Self-reported turnover.
[13] The exact turnover for all companies was not found.

Table 22 Turnover of the respondents and non-respondents

Turnover (EUR million)	Respondents (n=114)	Non-respondents (n=1,120)
0–15	29.6%	20.5%
16–25	23.1%	39.7%
26–50	25%	25.0%
50+	22.2%	14.9%
Average	44.5 million	28.9 million

5.9 Data analysis methods

In this research, structural equation modeling (SEM), which is a multivariate method that can be used to examine a set of regression equations simultaneously (Hair et al. 1995), was used to test both the direct and interaction effects in the research model proposed. In particular, the Partial Least Squares approach (PLS) to SEM was used in data analysis, which refers to a family of related methods. Next, an overview of the PLS will be given, and after that, the guidelines for how the results were interpreted will be discussed.

5.9.1 Partial Least Squares approach to structural equation modeling

PLS can be defined as a constrained form of component modeling, whereas conventional SEM such as Lisrel can be seen as modeling with common factors (Rigdon 2005). PLS is also sometimes called "soft modeling," which refers to PLS's ability to address situations where hard assumptions of more traditional multivariate statistics are difficult or impossible to meet (Deal 2005).

PLS was created by Wold in the late 1960s. Wold (1979) states that "PLS is designed to reflect the theoretical and empirical qualities of social sciences and behavior in the situations in which there is no sufficient theory or there is only little information available." PLS is a predictive technique, which can handle many independent variables, even when these display colinearity, which is common in survey research in marketing (e.g. Graber, Czellar, and Denis 2002). Colinearity occurs when highly related independent variables are included in the same model (Cohen et al. 2003). Cohen et al. (2003) explain that in cross-sectional research, serious colinearity most commonly occurs when multiple measures of the same or similar constructs are used as the independent variables in a regression equation. The problem of colinearity

may lead to unstable path coefficients that are associated with larger standard errors. Furthermore, colinearity can lead to complexities in interpreting path coefficients.

PLS first gained popularity in chemometric research, and after that, it spread to other fields. For instance, it has been used among IS researchers for decades (Straub et al. 2000), and it is also widely used in businesses around the world. PLS has not yet been widely used among marketing researchers (see: Real, Leal & Roldan 2006; Matzler, Bidman & Sonja Grabner-Kräuter 2006; Fisher & Gregoire 2006; MacMillan, Money, Money & Dowlings 2005), but its popularity seems to be growing rapidly.

PLS has a dual meaning. In addition to partial least squares, it also refers to projection to latent structures, and therefore, is an approach to latent structure analysis. As the distribution of PLS is unknown, the conventional significance testing used in traditional SEM, such as using CFI and Chi-square, cannot be done (Chin & Newsted 1999). However, testing significance of the paths can be accomplished by bootstrapping methods. Conducting PLS analysis involves a two-step procedure. The first step is to evaluate a measurement model for each latent construct. In practice, this assesses the validity and reliability of the measures. The second step is to conduct a path analysis.

Recently, Marcoulines and Sauders (2006) warned researchers to view PLS as a silver bullet in structural equation modeling with small sample sizes. Despite the superior features of PLS, using it requires an understanding of both the strengths and weaknesses of it, and the differences between PLS and covariance-based SEM.

Researchers view PLS as a non-traditional alternative to conventional covariance-based SEM (Rigdon 2005). Table 23 summarizes the key differences between PLS and covariance-based structural equation modeling (CBSEM) such as Lisrel in terms of four criteria: 1) the epistemic relationship between constructs and their measures, 2) implications, 3) model complexity, and 4) sample size requirements (Chin and Newsted 1999).

Table 23 Comparing PLS and covariance based SEM (Chin & Newsted 1999)

Criterion	PLS	CBSEM
Epistemic relationship between a latent variable and its measures	Both formative or reflective measures	Typically only reflective measures
Implications	Optimal for prediction accuracy	Optimal for parameter accuracy
Model complexity	Large complexity (over 100 constructs and 1000 indicators)	Small to moderate complexity (less than 100 indicators)
Sample size requirement	Power analysis based on the portion of the model with the largest number of predictors. Minimal recommendations 30-100 cases.	Ideally based on power analysis of specific model. Minimal recommendations range 200-800.

The major strength of the PLS approach is that it can be modeled to use both formative and reflective measures, whereas CBSEM is typically used for the reflective mode only. In addition, PLS is optimal for prediction accuracy, whereas CBSEM is optimal for parameter accuracy. PLS can handle large and complex models consisting of many independent and dependent variables. CBSEM is best for small and moderate complexity models. Rigdon (2005) states that, although PLS does not focus on model testing the way CBSEM do, PLS users are required to specify an initial model. He adds that, in that sense, PLS is not a modeling fitting tool like the Exploratory Factor Analysis or Tetrad techniques. In this research, a rather complex model was tested (with 16 direct paths and 8 variables); therefore, PLS was a good choice.

The last reason why many researchers choose PLS over CBSEM is that PLS does not require a sample size as large as CBSEM does. The minimal recommendation for sample size in PLS is 30-100 cases. CBSEM usually requires 200-800. However, as Wold, the creator of PLS, states, “PLS comes into its own in situations that are data-rich but theory primitive, and the consistency at large suggests that larger sample size will improve results” (Rigdon 2005). In this research, the data set that was used in path analysis was small, n=114 pairs.

There are many PLS software available, such as Chin’s PLS Graph, that are widely used among academic researchers and SIMCA 8. In addition, the PLS

feature can be added to some statistical software packages such as SAS. In this research, SmartPLS software was used (Ringle, Wende & Will 2005: SmartPLS 2.0 [beta], www.smartpls.de.). SmartPLS is very user-friendly statistic software, and it has an excellent web site with discussions and advice available for the novice users.

5.9.2 Validity and reliability of the measures

The first step of PLS analysis is to evaluate measurement models for each latent construct. This means assessing validity and reliability of the measures. Validity refers to how well a measure actually measures the construct it is intended to measure, whereas reliability is concerned with the accuracy of the actual measuring instrument or procedure (e.g. Netemayer et al. 2003). In PLS analysis, Chin et al. (2003) advise that the adequacy of the measures is assessed by evaluating three components: 1) the reliability of the individual items, 2) the internal consistency of the items measuring the same latent construct, and 3) the discriminant validity of the constructs. Table 24 provides the guidelines for evaluating measures for PLS analysis.

Table 24 Guidelines to evaluate measures for Partial Least Squares analysis

Indicators	Desired values above
Individual item loadings	.70
Composite reliability (CR)	.70
Cronbach's alpha	.70
The average variance extracted (AVE)	.50

Individual item reliability is assessed by examining the loading of the items on their corresponding construct. The loadings greater than .70 are usually accepted. However, the items with loadings greater than .40 or .50 can also be acceptable. These items can be accepted for theoretical reasons or for the sake of consistency with previous measures (Duxbury & Higgins 1991).

Cronbach's alpha, probably the most common method used to assess measurement reliability, is reported. Desired values for alphas are over .70 (Nunnanly 1978). The measure for internal consistency, *composite reliability,*

for the latent constructs is similar to Cronbach's alpha. Composite reliability (CR) is viewed as more appropriate for PLS models than Cronbach's alpha because it uses loadings generated within a structural equation model (Chin et al. 2003). A general guideline is to accept values that exceed value .70 (Nunnally 1978). The last indicator to assess measures in PLS is *the average variance extracted* (AVE). It simply refers to how much the items explain the variance of the construct. Desired values are above .50.

5.9.3 Interpreting path analysis and interaction effects in Partial Least Squares

PLS path analysis uses similar indicators to regression analysis to interpret results. Table 25 summarizes the key indicators used. R-Square can have values 0–1. Higher values mean that the model explains more variance (Cohen et al. 2003). The size of path coefficients, *beta coefficients*, refers to the strength of the relationship between independent and dependent variable.
The significance of the path, *t-values*, indicates if a particular path is statistically significant. PLS uses a bootstrapping method to calculate t-values; 500 bootstrapping runs were done to compute t-values. In general, the term bootstrapping is an allusion to the expression "pulling oneself up by one's bootstraps". In statistics, bootstrapping is a method for estimating the sampling distribution of an estimator by re-sampling with replacement from the original sample. In this case, using the sample data as a population from which repeated samples are drawn. Appendix 6 includes the guidelines for t-values and the significance.

Table 25 Guidelines for interpretation of PLS path analysis

Indicators	Interpretation
R^2	"Higher the value better," values between 0–1
Size of standardized path coefficients (beta)	Positive value => positive relationship Negative value =>negative relationship
Significance of the paths (t-values)	Significant values based on the degrees of freedom 500

The use of moderators is very common in academic marketing research. In general terms, a moderator is a qualitative (e.g. race, sex) or quantitative (e.g. a level of reward) variable that affects the direction and/or strength of the relationships between an independent and a dependent variable (Baron & Kenney 1986). In this research, moderators are defined as "pure" moderators, which refer to a situation where a moderator (dependence on current customers) modifies the relationship between an independent (action-oriented customer information usage) and a dependent variable (customer performance) (Sharma, Durand & Gur-Arie 1981). Figure 9 illustrates interaction effect in this research.

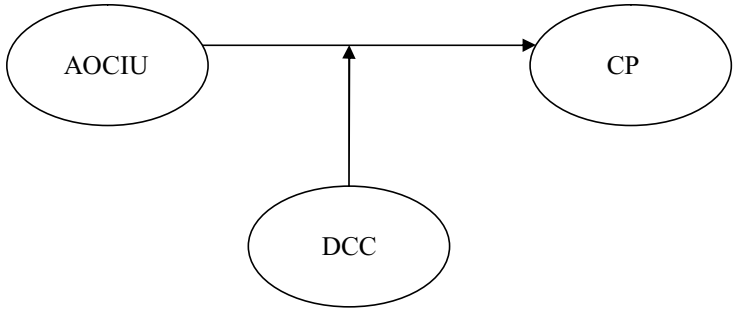


Figure 9 An interaction effect

Interaction effects will be tested with PLS. It has been shown to be an effective analytical tool to test product-term interactions (Fisher & Grégoire 2006). Figure 10 illustrates the interaction effect in PLS with the constructs from this research[14]. To keep the picture clear, not all the items are drawn.

[14] AOCIU = Action-oriented customer information usage, CP = Customer performance, DCC = Dependence on current customers, and AOCIU*DCC = interaction effect.

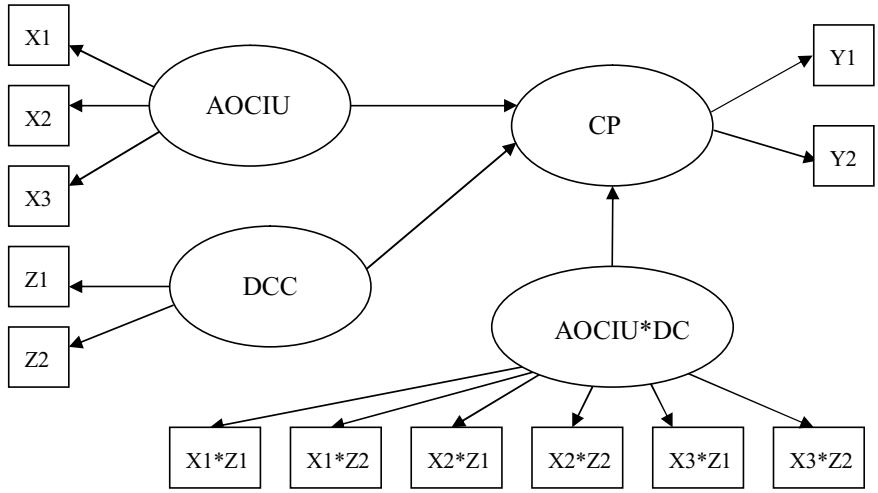


Figure 10 Illustration of the interaction effect in Partial Least Squares

Chin's (1998) and Chin et al.'s (2003) guidelines to test interaction effects with PLS were followed. The process includes three steps: 1) standardizing or mean-centering indicators for the main and moderating constructs, 2) creating all pair-wise product indicators, i.e. each indicator from the main construct is multiplied with each indicator from the moderating construct, and 3) using the new product indicators to reflect the interaction construct. First, a path analysis is conducted (beta coefficient and R^2), and then significance of the path is calculated with a bootstrapping procedure.

In this research, two latent variables were proposed as moderators: 1) dependence on current customer relationships, and 2) heterogeneity of current customer base. All of the constructs were measured with multi-item indicators.

6 RESULTS AND DISCUSSION

This chapter presents the results of the research, and begins by assessing the validity and reliability of the measures. The chapter then describes the sample and its representativeness, followed by the results of the path analysis. This chapter ends with the discussion of the results.

6.1 Measurement models: Assessing the validity and reliability of the measures

The first step of the PLS analysis is to determine measurement models for the latent constructs. This includes assessing validity and reliability of the measures. Whenever possible, established measures were applied. The findings from the pilot study were also used to modify some measures to fit better in the business-to-business setting, especially the measures for customer information usages. The majority of the constructs were operationalized with multi-item measures, and a Likert type seven-point scale, ranging from "strongly disagree" (1) to "strongly agree" (7) was used. The extent of customer information collected and stored and experience with CRM systems (in years) were measured with single item scales.

Action-oriented customer information usage refers to the direct use of information. After the purification of the ten original items, six items were chosen. The original item loadings are in Appendix 7, and summary of the final measures in Appendix 8. Table 26 provides the summary of individual item loadings (.606–.826), Composed Reliability (C.R.): .92, Crohnbach's alpha: 0.90, and Average Variance Extracted, .62. All the indicators, except one item loading, are well above desired values. Only the purified measures of the constructs are presented in the tables.

Table 26 Action-oriented use of customer information

Action-oriented use of customer information	Mean & St.d.	Loading	C.R.	Alpha	AVE
1. We use customer information in creating plans.	5.26 (1.21)	.666	.91	.88	.62
2. We use customer information to identify appropriate channels to reach our customers.	5.19 (1.26)	.607			
3. We use customer information to up-sell new products and services to our current customers.	5.50 (1.02)	.826			
4. We use customer information to customize our offers.	5.49 (1.12)	.731			
5. We use customer information to serve our customers better.	5.51 (1.04)	.800			
6. We use customer information in our everyday interaction with our customers.	5.27 (1.14)	.606			

Knowledge-enhancing customer information usage was measured with a 7-point scale. After purifying low loading items from the pool of nine original items, six were chosen to measure knowledge-enhancing customer information usage. Table 27 summarizes the key indicators of the items. The individual loadings for knowledge-enhancing customer information usage range from .514–.662, which can be considered adequate. Low individual item loadings were accepted due to their theoretical value. Indirect use of information might have been difficult to identify by users themselves, and, therefore, it can be difficult to measure with a self-reported questionnaire. Composite reliability is .90, alpha .86 and average variance extracted .62 for knowledge-enhancing customer information usage, which are well above the desired values. Table 27 summarizes the purified items.

Table 27 Knowledge-enhancing customer information usage

Knowledge-enhancing customer information usage	Mean & St.d.	Loading	C.R.	Alpha	AVE
1. We use customer information to educate our employees such as customer case workshops.	4.01 (1.46)	.494	.91	.88	.62
2. We use customer information to learn about our current customers' needs and wants.	4.70 (1.33)	.581			
3. We use customer information to assess the lifetime value of our business customers.	4.52 (1.55)	.528			
4. We use customer information to analyze trends of the markets.	4.42 (1.40)	.548			
5. Our customer information is a central input in our business planning.	4.85 (1.41)	.582			
6. Customer information has an important role in managing customer relationships.	5.24 (1.24)	.671			

Symbolic customer information usage refers to using information for its appearance's sake, i.e. simply because customer information exists, and not to bring valuable insights to the decision-making. This usage can be also described as bad information use behavior (Rollins & Johnston 2006). Six original items were used to measure symbolic customer information usage. After purifying items, however, only three items remained to measure symbolic customer information usage**.** Alpha was .63, which is too low according to common guidelines. Individual item loadings of symbolic customer information usage that fall in the range of .560–.680 can be viewed as adequate. Despite the problems with the measures, this construct was included in the path analysis due to its theoretical value. Table 28 gives the summary of the values.

Table 28 Symbolic customer information usage

Symbolic customer information usage	Mean & St.d.	Loading	C.R.	Alpha	AVE
1. We sometimes manipulate customer information in order to justify decisions really made on the basis of instinct.	2.13 (1.24)	.570	.79	.63	.56
2. In our business unit, customer information is distorted in passing it on.	2.56 (1.14)	.664			
3. We do not use customer information in marketing decisions that we originally asked customers for.	2.46 (1.15)	.686			

The extent of customer information collected and stored refers to different types of customer-related data that a company regularly collects and stores about its current business customers. Respondents were asked to identify from a list of customer information types, the types of customer information that are regularly collected and stored in their company/business unit. In addition, space was provided to add other types of customer-specific data that companies collect and store. The questionnaire had 11 different types of customer-related data options from which to choose the extent of customer information collected and stored was classified into four categories: 1) market level, 2) organizational level, 3) buying center or business unit level, and 4) individual level (Rollins & Johnston 2007). Table 29 summarizes the results. Some of the customer data types can be collected at two levels; for example, customer satisfaction data can be collected at both organizational level as well as the business unit level.

All of the companies collected contact information, and almost 90% of the companies in the sample collected information on customer's buyers, and 64% collected information on customer's top management. Over 70% of the respondents regularly collect the customer's sales history, customer satisfaction information and correspondence information. Market level information, i.e., information on a customer's business environment, market knowledge on a customer's market and information on customers' customers, was regularly collected and stored by 64%, 40.4%, and 23.7% of the companies. The companies that collect information on customer's customers were surprisingly low. Only 28.1% of the companies in the sample collected

and stored customer information generated by a help desk or customer support.

Table 29 The types of customer information collected and stored (n=114)

CI collected and stored	Number of companies	Percent of the sample
Market level CI		
Information on customer's business environment	73	64.0%
Market knowledge on customer's market	46	40.4%
Information on customer's customers	27	23.7%
Organizational level CI		
Contact information	114	100%
Sales history	86	75.4%
Customer satisfaction information	89	78.1%
Customer feedback	71	62.3%
Buying center or business unit level CI		
Information from help desk or customer support	32	28.1%
Information on top management of the buyer	73	64%
Correspondence information	91	79.8
Individual buyer level CI		
Information on buyers	102	89.5%

There were three CRM related constructs in this research. Questions considering of customer relationship orientation were asked in the first part of the questionnaire, and CRM systems questions in the second part of the questionnaire. *Customer relationship orientation* refers to the culture of the company being customer-oriented. Table 30 summarizes the construct. Item loadings range from .763–.979. All three indicators: composite reliability (.92), alpha (.88), and average variance extracted (.74) were well above desired values.

Table 30 Customer relationship orientation

Customer relationship orientation	Mean & St.d.	Loading	C.R.	Alpha	AVE
1. In our business unit, retaining customers is considered to be a top priority.	6.27 (.91)	.763	.92	.88	.74
2. In our business unit, we are encouraged to focus on customer relationships.	5.88 (1.01)	.930			
3. In our business unit, customer relationships are considered to be a valuable asset.	6.17 (0.96)	.979			
4. Our senior management emphasizes the importance of customer relationships.	6.21 (.90)	.969			

The extent to which CRM systems are used within a business unit/company (Jayachandran & Sharma 2003) was measured originally with five items, but two items were dropped. Table 31 provides a summary of the construct. The individual item loadings ranged from .526–.634, which are adequate. Composite reliability was .85 and alpha .74, which are both above desired values. Average variance extracted was .66, which is above the cut-off value of .50.

Table 31 Extent of CRM system usage

Extent of CRM systems usage	Mean & St.d.	Loading	C.R.	Alpha	AVE
1. The technology systems we employ for CRM are easy to use.	4.80 (1.32)	.577	.85	.74	.66
2. Our employees are trained to use CRM technology effectively.	4.52 (1.45)	.634			
3. CRM system or equivalent has a central role in our customer information management.	5.19 (1.47)	.526			

Experience with CRM systems was measured as a single item construct; therefore, the same analysis than for multi-item measures cannot be computed. Experience with CRM systems was measured with years with CRM systems as follows: less than 3 years, 3–6 years, and over 6 years. In the sample, 81.4% of the companies had CRM or equivalent systems implemented. Of the companies participating in the survey, 43.9% had had CRM systems less than 3 years, and 57.1% had had these systems more than 3 years.

In this research, customer performance was tested as a key outcome of using customer information. Table 32 summarizes the customer performance construct. This construct was measured with three items. Individual items loadings range between .705–.864, which are above desired values. Composite reliability was .85 and alpha .74 and average variance extracted was .66.

Table 32 Seller company's customer performance

Seller's customer performance	Mean & St.d.	Loading	C.R.	Alpha	AVE
1. In the past 3 years, how would you describe your company has been able to improve its customer satisfaction compared to competitors?	5.07 (.99)	.864	.85	.74	.66
2. …retain its current customers?	5.07 (1.19)	.705			
3. …increase customer profitability?	4.84 (.97)	.778			

There were two moderating variables proposed in the research model: dependence on current customers and heterogeneity of current customer base. Originally, there were six items to measure dependence on current customers, but after purifying items, only two items were kept (Table 33). Composite reliability was .92, alpha was .84, and average variance extracted was .86, which are well above desired values. Individual item loadings were .678 and .723.

Table 33 Dependence on current customers

Dependence on current customers	Mean & St.d.	Loading	C.R.	Alpha	AVE
1. We are highly dependent on our biggest customers.	5.65 (1.40)	.678	.92	.84	.86
2. It would be highly problematic for us to replace our current customers.	5.48 (1.26)	.723			

After purifying seven original items, heterogeneity of customer base was measured with four items (Table 34). Alpha was .79, and average variance extracted was .59, which are adequate. Individual item loadings ranged from

.505–.707. Summary of the final measures and correlation matrix are in Appendix 5 and 6.

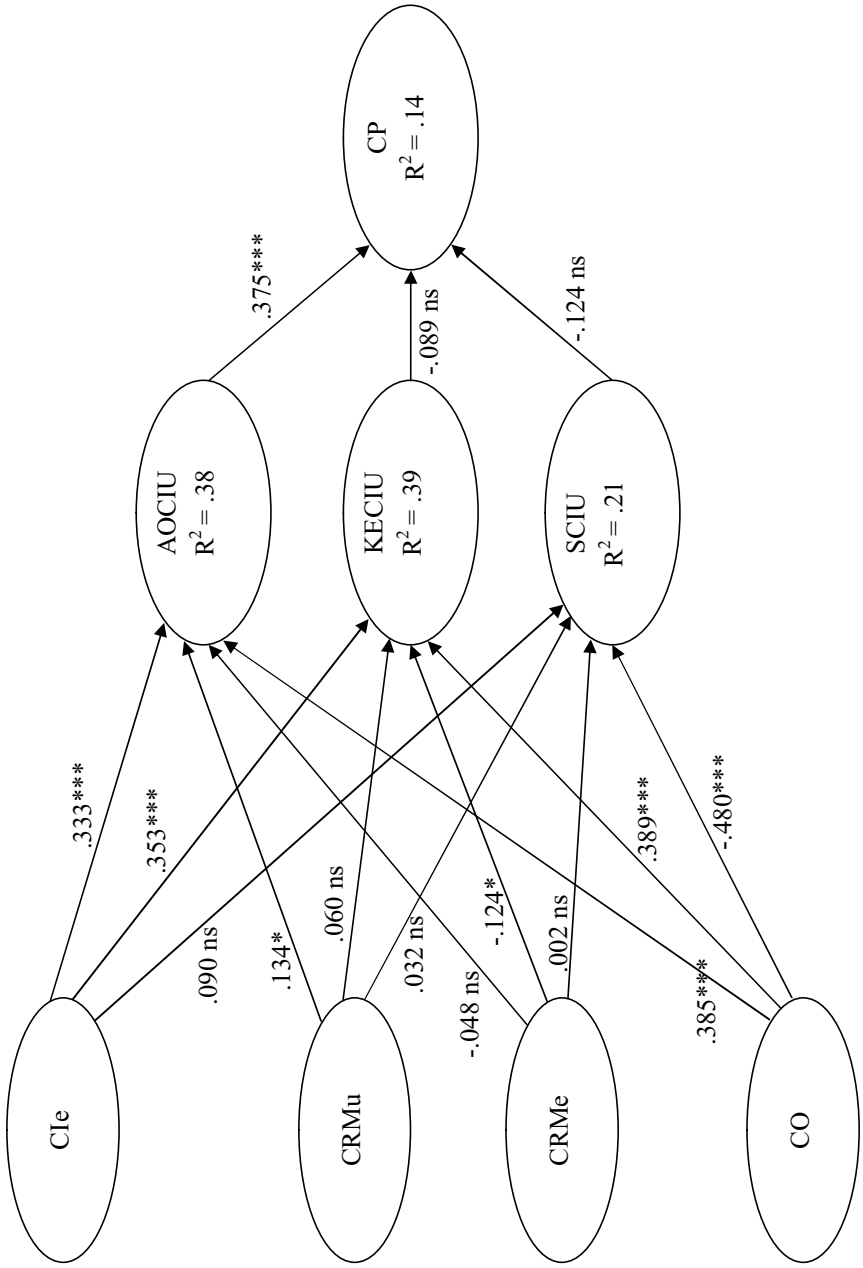
Table 34 Customer heterogeneity

Customer heterogeneity indicator	Mean & St.d.	Loading	C.R.	Alpha	AVE
1. Our customers are very different from each other in terms of needs and preferences.	4.64 (1.43)	.515	.85	.79	.59
2. Our customer relationships differ in terms of relationship strength.	5.20 (1.26)	.543			
3. Our customers differ in terms of service level they require from us.	4.94 (1.52)	.505			
4. Our customers differ in terms of trust and commitment.	5.16 (1.25)	.707			

6.2 Results and discussion of the path analysis

In this research, the PLS approach to structural equation modeling was used to test both direct and moderating paths in the research model. Figure 11 provides the beta coefficients and R^2 values of the path model. In the proposed path model, 16 hypotheses were tested. Eight hypotheses out of 16 received support from empirical data, and one opposite result was found. First, the results of the direct paths will be discussed, and after that the moderation effects will be presented. Correlations among latent constructs are presented in Appendix 9.

Figure 11 Results of the direct effects in path analysis



6.2.1 Customer information usage and customer performance

The primary purpose of this research was to examine how customer information usage affects customer performance in business-to-business markets. Previous research and the findings from the pilot study proposed that positive types of customer information usages, i.e., action-oriented and knowledge-enhancing, would lead to better customer performance (Srinivasan & Lilien 1999), and that symbolic customer information usage would have an opposite effect. Table 35 summarizes the results from hypotheses H5a, H5b, and H5c, which deal with the effects of customer information usages to a company's customer performance.

In this research, it was predicted that action-oriented customer information usage improves customer performance. This hypothesis, H5a, received strong support (β = .375, $p < .001$). In addition, it was predicted that knowledge-enhancing customer information usage would also improve customer performance, but the result from data analysis shows otherwise. It shows that knowledge-enhancing customer information usage has a negative effect (β = -.089 ns) on customer performance, but this path is not statistically significant. Last, it was predicted that symbolic customer information usage reduced customer performance. This path was negative (β = -.124 ns), but it was not statistically significant; therefore, H5c was not supported.

Three types of customer information usages explained customer performance within a sample for 14%. This is a considerably less than for instance Srinivasan and Lilien (1999) received with similar measures and research design, 32% variance. One possible explanation may be the data collection design in this research. There were two different respondents answering questions related to customer information usage and seller's customer performance. Moreover, the sample of this research was heterogeneous in terms of a company's size, industries, and customer base.

Table 35 Direct effects: Customer information usage - performance

Hypotheses	Direction	Beta coefficient (t-value)	Result
AOCIU → CP	+	.375 (2.348)	Supported
KECIU → CP	+	-.089 (.575)	Not supported
SCIU → CP	-	-.124 (.998)	Not supported

Results indicated that action-oriented customer information usage (direct information usage) has a positive effect on customer performance, but surprisingly, knowledge-enhancing customer information usage (in-direct information usage) did not have a same effect. There can be a number of explanations for this result. For instance, Moorman (1995) found that action-oriented and knowledge-enhancing information usages, although highly correlated with each other such as in this research, could have different outcomes. Her results suggest that knowledge-enhancing market information use is a strong predictor of new product performance, timelines, and creativity, but action-oriented use of information was not a predictor of new product creativity. Improvements in knowledge-enhancing customer information usage may actualize as long-term benefits (see Menon & Varadarajan 1992) whereas action-oriented customer information usage has easily recognizable, short-term benefits.

Another potential explanation could be that because action-oriented customer information usage is often a predominant type of information usage within companies (Morgan et al. 2005); improving knowledge-enhancing customer information usage might not even be a goal for many companies. There can be a number of mediating factors between the relationship knowledge-enhancing customer information usage and customer performance. These could be a new product development success (see Moorman 1995; Maltz & Kohli 1996) and strategy selection (Zahay & Griffin 2003).

The different nature of customer information usages can also play a role in the results. Knowledge-enhancing customer information usage can be difficult to recognize by users themselves because it does not involve a direct application of the information to the problem (Menon & Wilcox 2000). Therefore, it might not even be viewed as information usage similar to action-oriented customer information usage. In addition, sample itself (both pilot and main study) might affect these results. Knowledge-enhancing customer information usage is positively associated with company size in terms of

personnel (correlation .217, significant at the level .05) and turnover (.170 significant at the level .05). In the pilot study interviews, where companies were large companies, excluding one, informants did distinguish between different types of customer information usages. In addition, sample companies in main study were larger compared to the companies in the sample frame. These results suggest that knowledge-enhancing customer information might benefit larger companies more than smaller ones.

The negative types of information uses have not been widely studied in the marketing field, although researchers and managers agree that information is often used symbolically rather than for the sake of its information value (Diamantopoulos & Souchon 1999; Vyas & Souchon 2003). In this research, the results from the data analysis did not confirm a negative effect of symbolic customer information usage on a seller company's customer performance[15]. This result needs to be interpreted with caution because the measures of symbolic customer information usage did not meet all the general guidelines in terms of individual item loadings and Cronbach's alpha.

There is no consensus in information utilization research on how different information usage types might affect each other (Diamantopoulos & Souchon 1999), and how these effects should be distinguished (Maltz & Kohli 1996). Results from this research provide some insights into how different types of information usages might interact with each other. The correlation matrix of the latent constructs (Appendix 6) shows negative correlations between symbolic customer information usage and both action-oriented customer information usage (-.262**) and knowledge-enhancing customer information usage (-.275**). Diamantopoulos and Souchon (1999) had comparable findings in considering export market information usage. It was also interesting that symbolic customer information usage has only one significant correlation among constructs in the research model; it is negatively correlated with customer relationship orientation.

Finally, the findings from the pilot study and the main empirical study indicate that symbolic customer information usage is inherently an individual level information concept, not an organizational level concept, as are action-oriented and knowledge-enhancing information usages. Therefore, symbolic information usage could be described as information use behavior rather than actual information usage process (see Rollins & Johnston 2006). Vyas and Souchon (2003) suggest, "Symbolic use of information serves primarily the purpose of the individual information user."

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[15] Path was negative, but not statistically significant.

6.2.2 Antecedent of three types of customer information usages

This research proposed the effects of the extent of customer information collected and stored, customer orientation, CRM systems usage, and experience with these systems to three types of customer information usages. Table 36 summarizes the results from the path analysis.

Table 36 Results of the direct effects: Antecedents – customer information usage

Hypotheses	Direction	Beta coefficient (t-value)	Result
CI → AOCIU	+	.333 (4.219)	Supported
CI → KECIU	+	.353 (4.015)	Supported
CI → SCIU	-	.090 (.785)	Not supported
CO → AOCIU	+	.385 (3.499)	Supported
CO → KECIU	+	.389 (4.334)	Supported
CO → SCIU	-	-.480 (4.343)	Supported
CRMu → AOCIU	+	.134 (1.292)	Supported
CRMu → KECIU	+	.060 (.721)	Not supported
CRMu → SCIU	-	.032 (.272)	Not supported
CRMe → AOCIU	+	-.048 (.590)	Not supported
CRMe → KECIU	+	-.124 (1.588)	Not supported/ *Opposite result*
CRMe → SCIU	-	.002 (.022)	Not supported

6.2.3 The extent of customer information collected and stored and customer information usage

H1a and H1b predicted that the extent of customer information collected and stored improves action-oriented and knowledge-enhancing customer information usages. Both of the hypotheses received strong support. Beta coefficients were positively significant .333 ($p<.001$) and .353 ($p<.001$). H1c predicted that the extent of customer information collected and stored on current customers reduces symbolic customer information usage. This hypothesis was not supported. The beta coefficient was slightly positive, .090, but it was not statistically significant. The empirical data analysis shows that

the more customer information a company collects and stores, the more it is able to use it both directly, in an action-oriented way, and indirectly, in a knowledge-enhancing way. This result is opposite to previous research in the field that suggests that more information does not always lead to using information (e.g. Abbott 2001). There are many potential explanations for this.

Companies that collect and store a variety of customer information might have better CRM or equivalent systems, and/or they utilize more advanced analysis methods to convert customer data into information (see: Davenport et al. 2001). In addition, a number of organizational factors might strengthen the relationship between customer information collection and usage for instance, using proper incentives for employees to encourage customer information usage. Customer information usage can also start to stimulate collecting and storing more relevant and usable customer information and this creates a positive cycle for customer information generation and utilization. One of the informants in the pilot study emphasized that small successes in using customer information have promoted customer information usage in their company, and people have become more proactive using customer information available to them.

6.2.4 Customer relationship orientation and customer information usage

The second set of hypotheses, H2a, H2b, and H2c, predicted that customer relationship orientation increases both action-oriented and knowledge-enhancing customer information usages, but reduces symbolic customer information usage. All of the hypotheses received strong support from data. Beta coefficients were .385, .389 and -.480 ($p<.001$). These results provide further evidence that customer relationship orientation is a foundation for improving customer information usage (Day 2003), especially a positive type of customer information usage. Companies should also pay attention to reducing negative types of customer information uses, rather than only to trying to improve positive types of customer information uses.

Post hoc analysis conducted after testing hypotheses indicated that customer relationship orientation has a positive effect on CRM systems usage ($\beta = .309$, $p<.001$) as well as on the extent of customer information collected and stored ($\beta = .228$, $p<.05$). These results further confirm the view mentioned earlier; it is important that a company implement the strategic part of CRM, that being customer orientation, before implementing CRM systems (e.g. Rigby et al. 2001; Day 2003), if it attempts to improve usage of customer information.

6.2.5 CRM systems and customer information usage

In the past decade, companies have been investing in CRM systems hoping to make better use of the customer information they possess (Abbott 2001; Pass, Evans & Schlacter 2004). The findings in previous research (Jayachandran & Sharma 2003; Jayachandran et al. 2005; Morgan et al. 2005) and the pilot study strongly proposed that CRM systems would promote customer information usage. In addition, respondents of the main empirical part of this research were asked to give examples of what kinds of investments and attempts their business unit/company have done to improve customer information usage. Out of 140 companies, 73 companies replied to this question. Almost everybody's reply included investing in new CRM systems (and/or Enterprise Research Planning systems) or implementing new features to existing systems.

The hypotheses H3a, H3b, and H3c proposed how sophistication of CRM systems usage affects customer information usage. First, it was predicted that CRM systems usage improves action-oriented customer information usage. This hypothesis found support from the data. Beta coefficient was 0.134 ($p<0.10$).

Second, it was predicted that CRM systems usage also improves knowledge-enhancing customer information usage. This hypothesis was not supported. Beta coefficient was positive, .060, but it was not statistically significant. One possible explanation might be the nature of knowledge-enhancing customer information usage. It includes combining multiple customer information sources and searching for new possibilities from customer information, therefore, the role and impact of CRM systems might weaken when companies attempt to use customer information more strategically.

Third, it was predicted that sophistication of CRM systems usage reduces symbolic customer information usage within a company. This hypothesis was not supported: beta coefficient was slightly positive, but not statistically significant ($\beta= .031$ ns.).

Researchers and practitioners agree that it takes time to implement CRM systems and especially to learn to use them efficiently (Rigby et al. 2002). The hypotheses H4a, H4b, and H4c examined how experience with CRM systems affects customer information usage. It was predicted that experience with CRM systems improves both action-oriented and knowledge-enhancing customer information usages, but reduces symbolic customer information usage. None of these hypotheses received support in data. The results were actually opposite to what was expected: betas were negative for the links between experience with CRM systems and action-oriented customer

information (β= -.048 ns) and knowledge-enhancing usages (β= -.124, p < 0.10). There was a slightly positive link between experience with CRM systems and symbolic customer information usage (β= .002 ns), but it was not statistically significant.

The results from data analysis show that longer experience with CRM systems does not promote action-oriented customer information usage. Furthermore, the effect of experience of using CRM systems on knowledge-enhancing customer information usage was negative.

One possible explanation for this result could be that companies with CRM systems have difficulty motivating employees to use these systems in the long run (e.g. Corner & Hinton 2002), and therefore, the impact of CRM systems on customer information usage lessens over time. As mentioned earlier, knowledge-enhancing customer information usage includes combining customer information from a number of source and using customer information that is difficult to store in CRM systems such as relationship-specific information. Using customer information that is qualitative of its nature might not benefit from CRM systems. In addition, in many companies, customer information is stored in various systems other than a formal CRM system, it is dispersed through different departments (Davenport 1998; Missi et al. 2005).

6.2.6 Moderating effects: Customer base characteristics

The PLS approach was also used to test proposed moderating effects in the research model. These were tested one at a time for each relationship. All three of the moderating variables were latent variables measured with multi-item scales. Therefore, the recommendation of Chin et al. (2003) was followed when creating moderating effects. Moderating latent variables needs to be standardized or mean-centered before multiplying indicators. In this research, indicators were standardized. SmartPLS software includes the option to do this automatically. Table 37 presents the hypotheses, beta coefficients with t-values, R2, and results of the analysis.

Table 37 Results of the moderating effects

Hypotheses: interaction effects	Direction	Beta coefficient (t-value)	R^2	Result
AOCIU * DCC → CP	+	-.099 (.235)	.15	Not supported
KECIU * DCC → CP	+	.157 (.537)	.16	Not supported
SCIU * DCC → CP	-	.038 (.162)	.14	Not supported
AOCIU * HCB → CP	+	.236 (.913)	.20	Not supported
KECIU * HCB → CP	+	-.212 (.711)	.18	Not supported
SCIU * HCB → CP	-	-.227 (.143)	.19	Not supported

It was predicted that dependence on current customers would strengthen the relationship between action-oriented customer information usage and customer performance as well as the relationship between knowledge-enhancing customer information usage and customer performance. Beta coefficient was negative (β= -.099, ns) for the first relationship and positive for the second (β= .157, ns), but both were statistically not significant. It was predicted that dependence on the current customer base would have weakened the relationship between symbolic customer information usage and customer performance. Beta coefficient was slightly positive (β= .038, ns), but not statistically significant.

Next, the effect of heterogeneity of current customer base on the relationship between customer information usages and customer performance was proposed. None of the hypotheses were supported. Based on the previous research (Srinivasan & Lilien 1999; Morgan et al. 2005), it was predicted that heterogeneity of the current customer base would strengthen the relationship between action-oriented and knowledge-enhancing customer information usages and customer performance, whereas it would weaken the relationship between symbolic customer information usage and customer performance. In addition, the post hoc analysis after testing hypotheses showed that size of the current customer base (measured as low – moderate – high) does not moderate the relationship between customer information usages and customer performance.

One potential explanation for results could be that high dependence on few current customers is a very common situation in many industries in business-to-business markets. In addition, business-to-business companies often provide their services and products to very different types of companies in various industries, and therefore, heterogeneity of customer base has always been an integral part of the business. The size of the customer base itself might

also play a role. Companies in the sample were largely (approximately 80%) small and medium size companies, and they generally have smaller customer bases than large companies. A small customer base can be heterogeneous, but still easy to manage.

Table 38 presents the summary of the path analysis and moderator effects. A total of 15 direct paths, and six moderator effects were tested. Seven of the direct paths found support from data, but none of the interaction effects were supported.

Table 38 Summary of the results

Hypotheses	Direction	Result
CIe → AOCIU	+	Supported
CIe → KECIU	+	Not supported
CIe → SCIU	-	Not supported
CO → AOCIU	+	Supported
CO → KECIU	+	Supported
CO → SCIU	-	Supported
CRMu → AOCIU	+	Supported
CRMu → KECIU	+	Not supported
CRMu → SCIU	-	Not supported
CRMe → AOCIU	+	Not supported
CRMe → KECIU	+	Not supported /opposite effect
CRMe → SCIU	-	Not supported
AOCIU → CP	+	Supported
KECIU → CP	+	Not supported
SCIU → CP	-	Not supported
AOCIU * DCC → CP	+	Not supported
KECIU * DCC → CP	+	Not supported
SCIU * DCC → CP	-	Not supported
AOCIU * HCB → CP	+	Not supported
KECIU * HCB → CP	+	Not supported
SCIU * HCB → CB	-	Not supported

7 CONCLUSION

This last chapter will provide an overview of the research project, and discuss the contribution of the research as well as it discusses the limitations and avenues for future research.

7.1 Overview of the research

The main purpose of this dissertation research was to examine how customer information usage affects seller company's customer performance in business-to-business markets. This research also explored the effect of CRM systems and orientation on three types of customer information usages. Despite the substantial amount of information utilization research conducted in the marketing field, research on customer information usage in business-to-business context, as well as the effect of CRM on customer information usage, lack empirical evidence (Jayachandran et al 2005; Mithas et al. 2005).

In order to build the research model and testable hypotheses, a literature review on the fields of information utilization in marketing, KM and CRM, and the pilot study were conducted. Interviews in the pilot study were conducted in two countries Finland and the U.S. For the main empirical study, data were collected with online questionnaires among Finnish business-to-business companies. Two respondents from each company filled out two different questionnaires to avoid common method bias. The majority of the companies in the sample, almost 80%, were small and medium size companies. The final sample in the main study consisted of 140 companies/pairs with 280 respondents that yielded an effective response rate of 11.3%. 114 companies, 81.4%, had implemented formal CRM systems. Data were analyzed with the Partial Least Squares approach to structural modeling.

First, results of this research suggest that action-oriented customer information usage, i.e., direct use of customer information, has a positive effect on seller company's customer performance, but knowledge-enhancing customer information usage (indirect use of information) and symbolic customer information usage did not have same effect. Findings from the research project propose that larger companies might view knowledge-

enhancing customer information usage more valuable compared to smaller companies.

Second, the results of this research emphasize the importance of a customer-oriented culture in developing and improving positive types of customer information usage as well as reducing symbolic use of customer information. CRM systems use had a positive effect only on action-oriented customer information usage, but no effect on knowledge-enhancing or symbolic customer information usage. Moreover, the length of experience with CRM systems did not promote action-oriented customer information usage and it had a negative effect on knowledge-enhancing customer information usage among sample companies.

Third, this research showed evidence that if more customer information is collected and stored, then, simply, more of it is put to use. Moreover, the results of this research suggest that the characteristics of current customer base might not affect the relationship between customer information usage and seller company's customer performance.

7.2 Contribution

This research provides new theoretical and empirical knowledge and insights on information utilization research in the marketing and KM fields. In addition, this research contributes to the relationship marketing literature from the perspective of the business-to-business company. The findings of this research have several implications for companies investing in customer information usage and CRM systems. First, the theoretical contribution of this research will be discussed. After that, the managerial implications of this research will be discussed.

7.2.1 Theoretical contribution

This dissertation research examined how customer information usage affects seller's customer performance in business-to-business markets, and it explored the effect of CRM on customer information usage. From the theoretical point of view, this research added new knowledge to marketing literature in a number of ways.

First, this research contributed to marketing literature by further conceptualizing the term customer information in the business-to-business context. Customer information is a more complex concept in business-to-business markets than it is in consumer markets due to a number of people

participating in the buying and selling processes, and the number of channels, people, and methods by which customer information are collected. This research attempted at distinguishing between customer information and the related concepts in marketing literature such as marketing intelligence and market information.

Second, this research brought valuable insights to the current information utilization research in marketing by studying both positive and negative types of customer information usages in one study. The majority of previous research has focused on positive types of customer information usage, i.e., action-oriented and knowledge-enhancing information usages only (e.g. Maltz & Kohli 1996; Srinivasan & Lilien 1999), although in reality symbolic information usage is very common within companies (Vyas & Souchon 1999).

Third, from the definition and scale development points of view, this research both brought new insights and confirmed the findings from previous information utilization research. In this research, action-oriented and knowledge-enhancing customer information usages were operationalized as two constructs and they were found to be highly correlated with each other. Moorman (1995) and Maltz & Kohli (2001) had similar results. The findings from the pilot and main empirical studies suggest that the third type of customer information usage examined in this research, the symbolic one, might be inherently an individual level construct (see Vyas & Souchon 1999). This suggests that very different types of organizational as well as informational factors may affect symbolic customer information usage than action-oriented and knowledge-enhancing customer information usage.

Fourth, this research provided new information to the discussion of CRM in the marketing field. The first component of CRM, customer relationship orientation, was proposed to have a foundation for the positive types of customer information usages and for CRM systems usage. The findings emphasize the importance of adopting a customer-oriented culture first and systems second when attempting to improve customer information usage. Although CRM systems usage was found to have a positive effect on direct customer information usage, the positive role of CRM systems in customer information usage overall is inconclusive. It did not promote knowledge-enhancing customer information usage, nor decrease symbolic customer information usage.

Lastly, the main research problem in this dissertation research, “Does customer information usage lead to better customer performance?” addressed one of the key questions in marketing, information utilization, and Knowledge Management fields. Results of this research partially confirm the positive effect of customer information usage to seller company’s customer

performance. Only action-oriented customer information usage had a positive effect.

7.2.2 Managerial contribution

This research project originally started with managerial problems related to CRM systems, customer information usage and seller company's customer performance. Therefore, this research contributes to managerial discussions of these topics in several ways.

First, this research demonstrated that investments in improving the positive types of customer information usages could result in as better customer performance in a seller company. It is recommended that companies should promote positive types of customer information usages and they might want to attempt to limit using customer information symbolically. However, it should be noted that practices that might promote action-oriented information usage do not necessarily reduce symbolic information usage.

Second, this research created a new understanding the organizational and systems-related factors that improve customer information usages. First, developing customer relationship orientation should be viewed as a foundation for improving customer information usage. Especially, if company wants to promote knowledge-enhancing customer information usage, we caution that investments in CRM or equivalent systems alone might not produce the desired results. A company should consider investing in training employees to use customer information in new ways and improving cross-functional customer information sharing (Maltz & Kohli 1996). As one of the pilot study companies stated, "We need more customer orientation education than technical CRM education, if we want to improve our customer information use." The findings from the pilot study also suggest that companies should start with small projects when developing and improving customer information usage.

Third, empirical data of this research demonstrated that experience with the CRM systems alone does not lead to customer information usage. This finding shares the view with the previous research, which argues that it can be difficult in the long run to keep employees using CRM systems (e.g. Rigby et al. 2002). Therefore, companies should find various methods and practices to motivate employees to use customer information available for them. For instance, companies in the pilot study used customer case workshops and cross-functional (marketing, sales, production) meetings to encourage and support customer information usage.

7.3 Generalization of this research

Statistical generalization of the research means generalizing from the sample to the population (de Vaus 2002). In this research, the sample frame was Finnish business-to-business companies with turnover EUR 10–70 million at the end of 2005. In the final sample, average turnover was EUR 44.5 million. 78% of the sample companies had turnover less than EUR 50 million. In Finland, these companies are classified as small and medium size companies. Therefore, the results from the main empirical study are more applicable to small and medium size companies, which function in business-to-business markets only.

Because data to test hypotheses were collected in one country, generalizing the results in the main empirical part of the study can be difficult in other countries. However, in the pilot study, interviews were conducted in two countries Finland and the United States. Due to small sample size; no significant cultural differences were present.

7.4 Limitations and the avenues for future research

This research has some limitations that should be considered when interpreting the results. The first limitation is the limited geographical focus of this research. The next step of this research project will be to collect data with the same questionnaire in a main study in the U.S. and possibly also in other countries because there is a severe lack of empirical research on cross-national differences in customer information usage and information usage in general. For instance, Diamantopoulos, Souchon, Dunden, Axinn, and Holzmüller (2003) found that companies from different countries use export market information differently. Their results from their five-country study (Austria, Germany, New Zealand, the UK, and the U.S.), showed some differences in information usages among these countries. For instance, American exporters used export market information more symbolically than exporters from the other countries. Future research in customer information utilization could focus on exploring how culture and/or management styles might affect different types of customer information usages.

The second limitation of this research is the cross-sectional research design in both the pilot study and main empirical study. Cross-sectional research design limits the opportunities to test “real causal” relationships. However, in this research, relationships such as the relationship between action-oriented customer information usage and customer performance can be argued to be causal in nature.

The third limitation is focusing on one outcome of customer information usage, seller company's customer performance. Three possible outcomes (excluding customer-related outcomes) for customer information usage from both the marketing and management perspectives can be proposed based on previous research and the pilot study. These are 1) individual decision-maker related (such as more confidence about decisions made when using information), 2) financial-related (such as better business performance overall), and 3) innovation and learning-related (such as new product performance or organizational learning) outcomes. Future research could examine more than one outcome of customer information usage and their interactions. For instance, questions such as, does new product performance mediate the relationship between customer information usage and customer and business performance, could be addressed.

The fourth limitation of this research was a relatively small sample size. In this report, sample to test hypotheses was 114 pairs. Recently, smaller sample sizes have become more acceptable due to difficulties in collecting data. However, some problems in data analysis arise when using small sample sizes. For instance, it limits both the use of certain data analysis techniques such as conventional structural equation modeling and the possibilities of scale development. However, in this research, data are multi-respondent data; two people from each company replied to two different questionnaires and secondary data were collected to confirm perceptual performance measures.

Many unanswered questions remain about the effect of CRM systems to customer information usage. In this research, a CRM systems usage was measured with perceptual measures. Measuring it as an actual system usage such as how many hours/week employees actually use CRM systems or by observing the use of CRM systems might produce different results. We propose that future research could explore the following questions: Do different features and specifications of CRM systems affect different types of customer information usages? Do more advanced and sophisticated CRM systems promote customer information usage?

Previous research in information utilization in the marketing field has studied information utilization at both individual and organizational levels (e.g. Celuch et al. 2000), but there is still a lack of understanding of the topic as well as interactions between individual and organizational information usage. In the business-to-business setting, future research could include topics such as how salespeople use customer information in their everyday work, how that usage affects their sales performance, or how customer information is used in developing and modifying products and services such as developing new software. In addition, studying the dynamics between individual and organizational customer information usage could bring new insights into how

to support positive types of customer information usage while reducing negative types of information usage.

Survey method (and cross-sectional research design) has been a primary method to study information utilization in the marketing field. Only a few case studies and qualitative field studies can be found on the topic (see Hennestad 1999; Morgan et al. 2005). This research project utilized both qualitative and quantitative research methods, but the focus was in quantitative methods. Findings from the pilot study and main studies suggest that applying a longitudinal research design might be able to further explain how, why, and which customer information usage habits develop within a company over time.

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Appendix 1 Abbreviations used in this report

Abbreviation	Definition
CI	Customer information
CIe	Extent of customer information collected and stored
AOCIU	Action-oriented customer information usage
KECIU	Knowledge-enhancing customer information usage
SCIU	Symbolic customer information usage
CRMu	Extent of CRM system usage
CRMe	Experience with CRM systems in years
CO	Customer relationship orientation
CP	Seller's customer performance
DCC	Dependence on current customers
HCB	Heterogeneity of current customer base

Appendix 2 Theme interview guide in preliminary study

- Background about the company and informant (unit, experience within the company, field etc)
- Current customer base and potential customers of your company; the types of customer relationships.
- Terminology used in your company: customer information, market research information, marketing information, market information, customer data
- The importance of customer information management and use in your company/industry
- What kind of customer-specific information does your company possess on your current business customers?
    - How do you collect customer information from your business customers at the business unit level, in general?
    - What kinds of customer information are collected?
    - What is the quality of customer information residing in your company?
    - What is the availability of customer information?
- Storing and analyzing customer information in your business unit/company
- Sharing and disseminating customer information in your business unit/company
- The usage of customer information within your business unit/company.
    - What kinds of purposes is customer information used in your company?
    - What kinds of purposes could customer information be used? What are the areas you think are the most important ones?
- What kinds of systems are used in storing customer information? Centralization of these systems? Usage of these systems?
- Challenges in managing and using customer information in your company/in your industry
- Privacy issues regarding customer information collection and use on business customers

Appendix 3 Cover letter for the email questionnaire

Otsikko rivi: Turun kauppakorkeakoulun asiakastiedon käyttöä koskeva kysely

Arvoisa Vastaanottaja [vastaanottajan nimi]

Asiakaskohtaisen tiedon käyttö ja hyödyntäminen markkinoinnin- ja myynninpäätöksenteossa ovat haasteita, joita yritykset kohtaavat päivittäin. Yhä useammat yritykset ovat viime vuosina investoineet erilaisiin tietojärjestelmiin esim. asiakkuudenhallintajärjestelmiin hallitakseen asiakaskohtaista tietoaan paremmin. Kuitenkin hyvin vähän tiedetään, miten ja mihin yritykset käyttävät ja hyödyntävät heillä olemassa olevaa asiakaskohtaista tietoaan ja millaisia vaikutuksia näillä toimilla on. Tämä Turun kauppakorkeakoulun väitöskirjatutkimus tutkii asiakaskohtaisen tiedon käyttöä ja hyödyntämistä yritysasiakkaista Suomessa toimivissa yrityksissä. Tutkimuksen tulokset tulevat tarjoamaan vertailutietoa asiakastiedon käytöstä eri toimialoilla. Lähetän erittäin mielelläni tiivistelmän tutkimukseni tuloksista kaikille kyselyyn vastanneille.

Yhteystietonne on saatu Bluebook:n yritystietokannasta ja/tai yrityksenne www-sivuilta. Toivon, että kyselyyn vastaisivat **henkilöt, jotka vastaavat yrityksenne tai liiketoimintayksikkönne myynnistä, markkinoinnista, avainasiakastoiminnasta tai tietohallinnosta**. Mikäli ette itse voi vastata, pyydän teitä toimittamaan kyselyn oikealle henkilölle.

Mahdollisimman objektiivisten tulosten saavuttamiseksi, **tämä kysely sisältää kaksi osaa, joihin kerätään vastaukset kahdelta eri henkilöltä kustakin yrityksestä tai liiketoimintayksiköstä**. Kahden eri henkilön vastaukset yhdistetään yhdeksi vastaukseksi tämän viestin lopussa olevan koodin perusteella, joka kysytään molempien kyselyn osien alussa. Vastauksenne käsitellään ehdottaman luottamuksellisesti. Yhteystietonne jäävät vain tutkijan tietoon. Tutkimuksen tulokset esitetään vain yhteenvetomuodossa eli yksittäisten yritysten tietoja ei voida tunnistaa.

Vastauksenne on ratkaisevan tärkeä tutkimukseni onnistumiselle. Pyydän teitä vastaamaan kyselyyn **torstaihin 24.8.2006 mennessä** [ensimmäinen ryhmä] alla olevien www-linkkien kautta. Pyydän teitä vastaamaan kyselyn Osaan 1 oman yrityksenne tai liiketoimintayksikkönne näkökulmasta, ja lähettämään tämän sähköpostin eteenpäin henkilölle oman yrityksenne tai liiketoimintayksikkönne sisällä, joka voisi vastata kyselyn Osaan 2 samasta näkökulmasta. Vastaaminen kyselyihin vie noin 10 min.

Tutkimustani ohjaa professori Aino Halinen-Kaila Turun kauppakorkeakoulusta. Annan mielelläni lisätietoja tutkimuksestani (minna.halonen-rollins@tse.fi).

Kiitos vaivanäöstänne!

Ystävällisin Terveisin,

Minna Rollins
Tutkija, Turun kauppakorkeakoulu

Linkit kyselyyn:

Osa 1: https://www.webropol.com/P.aspx?id=98133&cid=3058203

Osa 2: https://www.webropol.com/P.aspx?id=98786&cid=5287323

Koodi, joka kysytään kyselyjen osioiden alussa: CKMXXXX

Appendix 4 Pre-testing questionnaire for CIU items

Customer Information Use Scale for Pre-testing

Definition of customer information: "customer-specific information on current and potential business customer within a business unit"

Action-oriented use of customer information: "a direct use of customer information"; customer information used to fill the gaps in a decision maker's knowledge; changes in the user's activities, practices, or policies that can be directly linked to the findings and implications of customer information

Knowledge-enhancing use of customer information: "indirect use of information"; results in changes in the user's knowledge and understanding of the issues and themes of customer information available; learning from customer information available as well as learning from the process of collecting, analyzing and sharing customer information

Symbolic use of customer information: "using customer information for its appearance sake"; distortion of customer information

1) Match the statement and the type of customer information use.

	Action-oriented use	Knowledge-enchancing use	Symbolic use	Can't tell
1. We sometimes manipulate customer information in order to justify decisions really made on the basis of instinct.	☐	☐	☐	☐
2. We use customer information in planning future expectations.	☐	☐	☐	☐
3. In our business unit, customer information is distorted in passing it on.	☐	☐	☐	☐
4. We often use customer information to back up hunches prior to the implementation of a decision.	☐	☐	☐	☐
5. We use customer information to predict future behavior of our customers.	☐	☐	☐	☐
6. We use customer information in creating new marketing campaigns	☐	☐	☐	☐
7. If customer information is difficult to get hold of we make guesses instead.	☐	☐	☐	☐
8. We use customer information to create more cost efficient services and practices.	☐	☐	☐	☐
9. We use customer information for managing our current business operations.	☐	☐	☐	☐
10. Our customer information is a central input in our business planning.	☐	☐	☐	☐
11. We use customer information to assess customer retention behavior.	☐	☐	☐	☐
12. We use customer information to identify appropriate channels to reach our customers.	☐	☐	☐	☐
13. We are encouraged to disagree, and to challenge one other's opinions on our customers.	☐	☐	☐	☐
14. We use customer information to justify decisions already made.	☐	☐	☐	☐
15. We use customer information in developing new services and products.	☐	☐	☐	☐
16. We use customer information to educate our employees.	☐	☐	☐	☐
17. We use customer information to segment our customer base.	☐	☐	☐	☐
18. We use customer information to up-sell new products and services to our current customers.	☐	☐	☐	☐
19. We do not use customer information when making in everyday decisions.	☐	☐	☐	☐

20. Our business unit has customer information that gives clear direction on implementation.	☐	☐	☐	☐
21. We use customer information to support interaction with our customers.	☐	☐	☐	☐
22. We provide analyzed information to our customers of their purchases and actions.	☐	☐	☐	☐
23. We use customer information to customize our offers.	☐	☐	☐	☐
24. We use customer information to develop customer profiles.	☐	☐	☐	☐
25. We do not use customer information in the making decisions for which it was initially requested.	☐	☐	☐	☐
26. We often use the same piece of customer information for more than one decision.	☐	☐	☐	☐
27. We often summarize customer information reducing its complexity.	☐	☐	☐	☐
28. We often combine instinct/intuition with customer information when we are making decisions.	☐	☐	☐	☐
29. We use customer information to learn about our current customers' needs and wants.	☐	☐	☐	☐
30. We use customer information to assess the lifetime value of our customers.	☐	☐	☐	☐
31. We use customer information to create new customer relationship strategies.	☐	☐	☐	☐
32. We use customer information to explain trends of the markets.	☐	☐	☐	☐

Kiitos paljon/Thank you very much/Tack so mycket!

☐ I want to submit my answers

Submit

Appendix 5 Online questionnaires in data collection of main study

Turun kauppakorkeakoulun asiakastiedon käyttöä koskeva kysely: OSA 1

Arvoisa Vastaanottaja,

Tämä Turun kauppakorkeakoulun väitöskirjatutkimus tutkii asiakaskohtaisen tiedon hyödyntämistä ja käyttöä yritysmarkkinoilla. Kysely on jaettu kahteen osaan. Tämä on Osa 1.

Kyselyyn vastaaminen kestää noin 10 minuuttia. Pyydän teitä vastaamaan kysymyksiin yrityksenne tai yhden liiketoimintayksikkönne näkökulmasta.

Kiitos vastauksestanne!

Ystävällisin Terveisin,

Minna Rollins

(minna.halonen-rollins@tse.fi)

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1) Yksilöllinen koodi (sähköpostiviestissä): *

Text *

Kysymykset 2 - 6: Yleisiä kysymyksiä yrityksenne/liiketoimintayksikkönne asiakastiedonhallinnasta.

2) Mitä tietoja yritysasiakkaistanne (=asiakaskohtainen tieto) yrityksenne/liiketoimintayksikkönne yleensä kerää ja varastoi? Valitkaa kaikki.

- ☐ Yhteystiedot (osoitteet yms.)
- ☐ Asiakkaan ostohistoria
- ☐ Asiakastyytyväisyystietoja (esim. omat kyselyt)
- ☐ Asiakaspalaute tarjoamistanne palveluista ja tuotteista (suullinen tai kirjallinen)
- ☐ Tietoja asiakkaan yhteyshenkilöistä/ostajista
- ☐ Tietoja asiakkaan johdosta/ylimmästä johdosta
- ☐ Tietoja asiakkaan liiketoiminta-alueesta
- ☐ Markkinatietoja asiakkaan liiketoimialalta
- ☐ Teknisen tuen/help deskin kautta asiakkaalta tuleva palaute
- ☐ Tietoja asiakkaan asiakkaista
- ☐ Kommunikaatiotietoja (sähköpostit yms.)
- ☐ Muita asiakasta koskevia tietoja?

3) Yritysasiakkaita koskevan tiedon laatu. Valitkaa asteikolla 1–7 vaihtoehto, joka parhaiten kuvaa tilannetta yrityksessänne/liiketoimintayksikössänne seuraavien väittämien kohdalla.

	1 = Täysin eri mieltä	2 = Eri mieltä	3 = Jokseenkin eri mieltä	4 = Ei eri eikä samaa mieltä	5 = Jokseenkin samaa mieltä	6 = Samaa mieltä	7 = Täysin samaa mieltä
1. Asiakastietomme yritysasiakkaista ovat objektiivisia.	○	○	○	○	○	○	○
2. Asiakastietomme yritysasiakkaistamme ovat paikkansapitäviä.	○	○	○	○	○	○	○
3. Asiakastietojamme yritysasikkaistamme päivitetään jatkuvasti.	○	○	○	○	○	○	○
4. Muutokset koskien asiakastietoja yritysasiakkaistamme tehdään usein liian myöhään.	○	○	○	○	○	○	○
5. Asiakastieto yritysasiakkaistamme on käytännöllistä ja tarpeellista.	○	○	○	○	○	○	○

4) Yritysasiakkaita koskevan tiedon säilyttäminen. Valitkaa asteikolla 1–7 vaihtoehto, joka parhaiten kuvaa yrityksenne/liiketoimintayksikkönne tilannetta seuraavien väittämien kohdalla.

	1 = Täysin eri mieltä	2 = Eri mieltä	3 = Jokseenkin eri mieltä	4 = Ei eri eikä samaa mieltä	5 = Jokseenkin samaa mieltä	6 = Samaa mieltä	7 = Täysin samaa mieltä
1. Yritysasiakkaitamme koskevat tiedot sijaitsevat monilla eri tahoilla (eri järjestelmissä, mapeissa yms).	○	○	○	○	○	○	○
2. Yritysasiakkaitamme koskevat tiedot eivät löydy helposti silloin, kun niitä tarvitaan.	○	○	○	○	○	○	○
3. Yritysasiakkaitamme koskevat tiedot ovat keskitetysti saatavilla, niille, jotka tietoja tarvitsevat.	○	○	○	○	○	○	○
4. Yritysasiakkaitamme koskevat tiedot ovat käytettävissä monista eri työpisteistä.	○	○	○	○	○	○	○
5. Tietoja yritysasiakkaistamme on tallennettu moniin eri järjestelmiin.	○	○	○	○	○	○	○

5) Asiakastiedon jakaminen. Valitkaa asteikolla 1–7 vaihtoehto, joka parhaiten kuvaa tilannetta yrityksessänne/liiketoimintayksikössänne.

	1 = Täysin eri mieltä	2 = Eri mieltä	3 = Jokseenkin eri mieltä	4 = Ei eri eikä samaa mieltä	5 = Jokseenkin samaa mieltä	6 = Samaa mieltä	7 = Täysin samaa mieltä
1. Käytäväjutustelu yrityksessämme/liiketoimintayksikössämme koskee usein yritysasiakkaitamme.	○	○	○	○	○	○	○
2. Osastojen välisiä kokouksia, joissa keskustellaan senhetkisistä asiakkaista, pidetään vähintään neljännesvuosittain.	○	○	○	○	○	○	○
3. Yrityksen markkinointihenkilöstö kertoo aktiivisesti muille osastoille yritysasiakkaidemme tulevista tarpeista.	○	○	○	○	○	○	○
4. Asiakirjat (esim. raportit, uutislehtiset), joissa on tietoa asiakkaista,jaetaan säännöllisesti kaikille yrityksen osastoille.	○	○	○	○	○	○	○
5. Kun jotain tärkeää tapahtuu jollekin suurelle asiakkaallemme, koko yritys/liiketoimintayksikkö saa siitä tiedon nopeasti.	○	○	○	○	○	○	○
6. Asiakastyytyväisyystiedot levitetään säännöllisesti yrityksemme/liiketoimintayksikkömme kaikilla tasoilla.	○	○	○	○	○	○	○
7. Asiakkaidemme tulevista tarpeista tiedotetaan eri osastojen ja toimintojen välillä erittäin vähän.	○	○	○	○	○	○	○
8. Asiakkaita koskeva tärkeä seikka, jonka jokin osasto on saanut tietoonsa, leviää muille osastoille hitaasti.	○	○	○	○	○	○	○
9. Asiakkaiden nykyisistä tarpeista tieto kulkee hyvin eri osastojen välillä.	○	○	○	○	○	○	○

6) Onko yrityksenne/liiketoimintayksikkönne tehnyt investointeja (esim. uudet järjestelmät, koulutus), jotka tähtäävät asiakastiedon käytön tehokkaampaan käyttöön ja hallintaan?

○ Kyllä.

○ Ei.

7) Esimerkkejä investoinneista (vapaaehtoinen):

Kysymykset 8 - 10: Asiakastiedon käyttöä ja hyödyntämistä koskevia kysymyksiä.

8) Asiakastietojen hyödyntäminen ja käyttö. Valitkaa asteikolla 1–7 vaihtoehto, joka parhaiten kuvaa yrityksenne/liiketoimintayksikkönne tilannetta seuraavien väittämien kohdalla.

	1 = Täysin eri mieltä	2 = Eri mieltä	3 = Jokseenkin eri mieltä	4 = Ei eri eikä samaa mieltä	5 = Jokseenkin samaa mieltä	6 = Samaa mieltä	7 = Täysin samaa mieltä
1. Hyödynnämme asiakaskohtaista tietoa yritysasiakkaistamme laatiessamme tulevaisuuden suunnitelmia.	○	○	○	○	○	○	○
2. Asiakaskohtaisen tietomme perusteella pyrimme tunnistamaan kanavat, joiden kautta voimme lähestyä ja kommunikoida asiakkaidemme kanssa.	○	○	○	○	○	○	○
3. Hyödynnämme asiakaskohtaista tietoa yritysasiakkaistamme uusien tuotteiden ja palveluiden kehittämisessä.	○	○	○	○	○	○	○
4. Hyödynnämme asiakaskohtaista tietoa yritysasiakkaistamme myydessämme lisää tuotteita ja palveluita nykyisille asiakkaillemme.	○	○	○	○	○	○	○
5. Hyödynnämme asiakaskohtaista tietoa yritysasiakkaistamme räätälöityjen tarjousten tekemisessä.	○	○	○	○	○	○	○
6. Hyödynnämme asiakaskohtaista tietoa asiakassuhdestrategioiden kehittelyssä.	○	○	○	○	○	○	○
7. Hyödynnämme asiakaskohtaista tietoa yritysasiakkaistamme palvellaksemme asiakkaitamme paremmin.	○	○	○	○	○	○	○
8. Käytämme asiakaskohtaista tietoa yritysasiakkaistamme jokapäiväisessä kanssakäymisessä asiakkaidemme kanssa.	○	○	○	○	○	○	○
9. Käytämme asiakaskohtaista tietoa yritysasiakkaistamme laatiaessamme yksilöllisiä markkinointiviestejä.	○	○	○	○	○	○	○
10. Hyödynnämme asiakaskohtaista tietoa yritysasiakkaistamme asiakkaidemme ongelmien ratkaisemisessa.	○	○	○	○	○	○	○

9) Asiakastietojen hyödyntäminen ja käyttö. Valitkaa asteikolla 1–7 vaihtoehto, joka parhaiten kuvaa yrityksenne/liiketoimintayksikkönne tilannetta seuraavien väittämien kohdalla.

	1 = Täysin eri mieltä	2 = Eri mieltä	3 = Jokseenkin eri mieltä	4 = Ei eri eikä samaa mieltä	5 = Jokseenkin samaa mieltä	6 = Samaa mieltä	7 = Täysin samaa mieltä
1. Hyödynnämme asiakaskohtaista tietoamme yritysasiakkaistamme työntekijöidemme koulutuksessa (esim. case workshops jne.).	○	○	○	○	○	○	○
2. Tarjoamme yritysasiakkaillemme analysoitua tietoa heidän ostoistaan ja toimistaan.	○	○	○	○	○	○	○
3. Kartoitamme nykyisten yritysasiakkaittemme tarpeita asiakaskohtaisten tietojemme pohjalta.	○	○	○	○	○	○	○
4. Käytämme asiakaskohtaista tietoa yritysasiakkaistamme, kun arvioimme asiakkaittemme koko elinkaaren arvoa tai potentiaalia meille.	○	○	○	○	○	○	○
5. Hyödynnämme asiakaskohtaista tietoa yritysasiakkaistamme markkinatrendien analysoinnissa.	○	○	○	○	○	○	○
6. Yleensä tiivistämme asiakaskohtaisia tietoja yritysasiakkaistamme niiden selkeyttämiseksi esim. kirjoittamalla raportteja.	○	○	○	○	○	○	○
7. Yritysasiakkaita koskevalla asiakaskohtaisella tiedolla on keskeinen rooli liiketoimintasuunnittelussamme.	○	○	○	○	○	○	○
8. Segmentoimme yritysasiakkaitamme asiakaskohtaisen tietomme pohjalta uusilla tavoilla.	○	○	○	○	○	○	○
9. Asiakaskohtaisella tiedolla yritysasiakkaistamme on tärkeä rooli asiakassuhteidemme johtamisessa.	○	○	○	○	○	○	○

10) Asiakastietojen hyödyntäminen ja käyttö. Valitkaa asteikolla 1–7 vaihtoehto, joka parhaiten kuvaa yrityksenne/liiketoimintayksikkönne tilannetta seuraavien väittämien kohdalla.

	1 = Täysin eri mieltä	2 = Eri mieltä	3 = Jokseenkin eri mieltä	4 = Ei eri eikä samaa mieltä	5 = Jokseenkin samaa mieltä	6 = Samaa mieltä	7 = Täysin samaa mieltä
1. Manipuloimme joskus asiakaskohtaisia tietoja yritysasiakkaistamme, jotta voimme perustella sellaisia päätöksiä, jotka itseasiassa tehtiin intuitioon perustuen.	○	○	○	○	○	○	○
2. Asiakaskohtainen tieto yritysasiakkaista vääristyy eteenpäin välitettäessä.	○	○	○	○	○	○	○
3. Käytämme asiakaskohtaista tietoa yritysasiakkaistamme jo aiemmin tehtyjen päätösten perusteluun.	○	○	○	○	○	○	○
4. Emme juurikaan käytä asiakaskohtaista tietoa yritysasiakkaistamme, jota varten tiedot alunperin kerättiin.	○	○	○	○	○	○	○
5. Asiakaskohtaisella tiedolla on markkinoinnin- ja myynnin päätöksenteossa suurempi rooli kuin intuitiolla.	○	○	○	○	○	○	○
6. Käytämme asiakaskohtaista tietoa yritysasiakkaistamme usein ennakkoaavistusten tukena ennen päätöksen tekemistä.	○	○	○	○	○	○	○

Kysymykset 11 - 18: yleisiä kysymyksiä teistä ja yrityksestänne. Tämä on kyselyn viimeinen osio.

11) Asiakassuhteiden tärkeys. Valitkaa asteikolla 1–7 vaihtoehto, joka parhaiten kuvaa yrityksenne/liiketoimintayksikkönne tilannetta seuraavien väittämien kohdalla.

	1 = Täysin eri mieltä	2 = Eri mieltä	3 = Jokseenkin eri mieltä	4 = Ei eri eikä samaa mieltä	5 = Jokseenkin samaa mieltä	6 = Samaa mieltä	7 = Täysin samaa mieltä
1. Nykyisten asiakkaiden säilyttämistä pidetään yrityksessämme/liiketoimintayksikössämme ensisijaisena.	○	○	○	○	○	○	○
2. Yrityksessämme/liiketoimintayksikössämme meitä kannustetaan keskittymään asiakassuhteisiin.	○	○	○	○	○	○	○
3. Asiakassuhteita pidetään yrityksessämme/liiketoimintayksikössämme tärkeänä voimavarana.	○	○	○	○	○	○	○
4. Ylin johtomme korostaa pitkäaikaisten asiakassuhteiden tärkeyttä.	○	○	○	○	○	○	○
5. Käytämme enemmän resursseja (markkinointi jne.) säilyttääksemme nykyiset asiakkaamme kuin uusien asiakkaiden hankintaan.	○	○	○	○	○	○	○

12) Yrityksenne/liiketoimintayksikkönne toimiala (valitkaa liikevaihdon perusteella tärkein):

- ○ Kaivostoiminta ja louhinta
- ○ Elintarvikkeiden ja juomien valmistus
- ○ Sahatavaran ja puutuotteiden valmistus
- ○ Massan, paperin ja paperituotteiden valmistus
- ○ Kemikaalien, kemiallisten tuotteiden ja tekokuitujen valmistus
- ○ Metallien jalostus ja metallituotteiden valmistus
- ○ Koneiden ja laitteiden valmistus
- ○ Elektroniikka ja sähkötuotteiden valmistus
- ○ Sähkö-, kaasu- ja vesihuolto
- ○ Tukku- ja vähittäiskauppa
- ○ Kuljetus, varastointi ja tietoliikenne
- ○ Rahoitus-, ja vakuutustoiminta
- ○ Kiinteistö-, vuokraus-, ja tutkimuspalvelut
- ○ Muut liike-elämän palvelut
- ○ Muu, mikä ?

13) Myymme asiakkaillemme pääasiassa (valitkaa liikevaihton perusteella tärkein):

- ○ Standardituotteita
- ○ Stardardituoteitta ja näihin liittyviä palveluita
- ○ Räätälöityjä tuotteita
- ○ Räätälöityjä tuoteitta ja näihin liittyviä palveluita
- ○ Standardipalveluita ja näihin liittyviä oheistuotteita
- ○ Räätälöityjä palveluita
- ○ Räätälöityjä palveluita ja näihin liittyviä oheistuotteita

14) Yrityksenne/Liiketoimintayksikkönne henkilöstö (2005):

1 - 20

15) Yrityksenne/liiketoimintayksikkönne liikevaihto milj. euroina (2005):

Text

16) Asemanne yrityksessänne/liiketoimintayksikössänne:

- ○ Markkinointipäällikkö
- ○ Markkinointijohtaja
- ○ Myyntipäällikkö
- ○ Myyntijohtaja
- ○ Avainasiakaspäällikkö
- ○ Asiakkuusjohtaja
- ○ Tietohallintopäällikkö
- ○ Tietohallintojohtaja
- ○ Toimitusjohtaja
- ○ Joku muu, mikä?

17) Kuinka kauan olette työskennelleet nykyisessä työssänne (vuosina)?

Text

18) Kuinka kauan olette työskennelleet alalla (vuosina)?

Text

Jos haluatte tiivistelmän tuloksista, niin täyttäkää yhteystietolomake.

Yhteystietolomake

Etunimi

Sukunimi

Sähköposti

☐ Haluan lähettää vastaukset

Lähetä | Palauta alkuperäiset

Turun kauppakorkeakoulun asiakastiedon käyttöä koskeva kysely: OSA 2

Arvoisa Vastaanottaja,

Tämä Turun kauppakorkeakoulun väitöskirjatutkimus tutkii asiakaskohtaisen tiedon hyödyntämistä ja käyttöä yritysmarkkinoilla. Tämä on kyselyn osa 2, joten teidän yrityksestänne tai liiketoimintayksiköstänne on vastattu kyselyn ensimmäiseen osaan.

Pyydämme teitä vastaamaan kysymyksiin samasta näkökulmasta kuin ensimmäisen osan vastaaja. Kysymyksiin vastaaminen vie noin 10 minuuttia.

Kiitos vastauksestanne!

Ystävällisin Terveisin,

Minna Rollins

(minna.halonen-rollins@tse.fi)

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1) Yksilöllinen koodi (sähköpostiviestissä): *

Text *

Kysymykset 2 - 4: Yritysasiakaskantaanne koskevat kysymykset.

2) Kuinka monta yritysasiakasta yrityksellänne/liiketoimintayksiköllänne on?

Text

3) Riippuvuus nykyisistä yritysasiakkaistanne. Valitkaa asteikolla 1–7 vaihtoehto, joka parhaiten kuvaa yrityksenne/liiketoimintayksikkönne tilannetta seuraavien väittämien kohdalla.

	1 = Täysin eri mieltä	2 = Eri mieltä	3 = Jokseenkin eri mieltä	4 = Ei eri eikä samaa mieltä	5 = Jokseenkin samaa mieltä	6 = Samaa mieltä	7 = Täysin samaa mieltä
1. Olemme erittäin riippuvaisia suurimmista asiakkaistamme.	○	○	○	○	○	○	○
2. Meidän olisi vaikea korvata tiettyjä asiakkaitamme.	○	○	○	○	○	○	○
3. Meillä on vain vähän potentiaalisia asiakkaita.	○	○	○	○	○	○	○
4. Yrityksemme/ liiketoimintayksikkömme ja asiakkaamme ovat vahvasti toisistaan riippuvaisia.	○	○	○	○	○	○	○
5. Uusien, jopa suurien, asiakassuhteiden luominen olisi meille helppoa tarvittaessa.	○	○	○	○	○	○	○
6. Markkinoillamme on paljon mahdollisia asiakkaita, joiden kanssa teemme yhteistyötä.	○	○	○	○	○	○	○

4) Yritysasiakaskantanne heterogeenisyys. Valitkaa asteikolla 1–7 vaihtoehto, joka parhaiten kuvaa yrityksenne/liiketoimintayksikkönne tilannetta seuraavien väittämien kohdalla.

	1 = Täysin eri mieltä	2 = Eri mieltä	3 = Jokseenkin eri mieltä	4 = Ei eri eikä samaa mieltä	5 = Jokseenkin samaa mieltä	6 = Samaa mieltä	7 = Täysin samaa mieltä
1. Asiakkaamme eroavat huomattavasti toisistaan myynti- ja voittopotentiaaliensa osalta.	○	○	○	○	○	○	○
2. Asiakkaamme eroavat toisistaan huomattavasti tarpeidensa ja mieltymystensä osalta.	○	○	○	○	○	○	○
3. Meillä on hyvin erilaisia asiakkaita.	○	○	○	○	○	○	○
4. Asiakkaamme poikkeavat suuresti ostokäyttäytymisensä perusteella.	○	○	○	○	○	○	○
5. Asiakassuhteemme eroavat toisistaan suhteen vahvuuden perusteella.	○	○	○	○	○	○	○
6. Asiakkaamme poikkeavat toisistaan vaatimansa palvelutason mukaan.	○	○	○	○	○	○	○
7. Asiakkaamme poikkeavat toisistaan asiakassuhteen sitoutumisen ja luottamuksen perusteella.	○	○	○	○	○	○	○

Kysymykset 5 - 8: Asiakkuudenhallintajärjestelmiä ja asiakastietokantoja koskevat kysymykset.

5) Onko yrityksellänne/liiketoimintayksiköllänne asiakkuudenhallintajärjestelmä tai asiakastietokanta, jonne keräätte ja varastoitte asiakastietoa yritysasiakkaistanne?

○ Kyllä. ○ Ei.

6) Asiakkuudenhallintajärjestelmä tai asiakastietokanta. Valitkaa asteikolla 1–7 vaihtoehto, joka parhaiten kuvaa yrityksenne/liiketoimintayksikkönne tilannetta seuraavien väittämien kohdalla.

	1 = Täysin eri mieltä	2 = Eri mieltä	3 = Jokseenkin eri mieltä	4 = Ei eri eikä samaa mieltä	5 = Jokseenkin samaa mieltä	6 = Samaa mieltä	7 = Täysin samaa mieltä
1. Meillä on asiakkuudenhallintajärjestelmä (CRM-järjestelmä tai asiakastietokanta) asiakastiedon analysointia varten.	○	○	○	○	○	○	○
2. Kilpailijoihimme verrattuna meillä on hyvät tietojärjestelmäresurssit.	○	○	○	○	○	○	○
3. Olemme investoineet tuntuvasti tietojärjestelmiin voidaksemme analysoida ja varastoida asiakastietoa.	○	○	○	○	○	○	○
4. Asiakkuudenhallintajärjestelmämme tai asiakastietokantamme eivät ole tyydyttävällä tasolla tarpeisiimme verrattuna.	○	○	○	○	○	○	○
5. Investoimme järjestelmiin, joilla voimme kerätä ja analysoida asiakaspalautetta ajantasaisesti.	○	○	○	○	○	○	○

7) Asiakkuudenhallintajärjestelmien tai asiakastietokannan käyttö. Valitkaa asteikolla 1–7 vaihtoehto, joka parhaiten kuvaa yrityksenne/liiketoimintayksikkönne tilannetta seuraavien väittämien kohdalla.

	1 = Täysin eri mieltä	2 = Eri mieltä	3 = Jokseenkin eri mieltä	4 = Ei eri eikä samaa mieltä	5 = Jokseenkin samaa mieltä	6 = Samaa mieltä	7 = Täysin samaa mieltä
1. Asiakkuudenhallintajärjestelmämme tai asiakastietokantamme ovat	○	○	○	○	○	○	○
helppokäyttöisiä.	○	○	○	○	○	○	○
2. Työntekijämme ovat koulutettu käyttämään asiakkuudenhallintajärjestelmiä tai asiakastietokantoja tehokkaasti.	○	○	○	○	○	○	○
3. Asiakkuudenhallintajärjestelmien käyttäjille on olemassa tarvittava tekninen tuki liiketoimintayksikössämme.	○	○	○	○	○	○	○
4. Asiakkuudenhallintajärjestelmä on keskeinen osa asiakastiedon hallintaamme.	○	○	○	○	○	○	○
5. Yrityksessämme/liiketoimintayksikössämme asiakkuudenhallintajärjestelmää tai asiakastietokantaa käytetään päivittäisessä työssä (myynti ja markkinointi).	○	○	○	○	○	○	○

8) Kuinka kauan tämä järjestelmä/tietokanta on ollut käytössä?

Alle 3 vuotta

Kysymykset 9 - 18: Teitä ja yritystänne/liiketoimintayksikköänne koskevat kysymykset. Tämä on kyselyn viimeinen osio.

9) Asiakaskohtainen tuloksellisuus. Valitkaa asteikolla 1–7 vaihtoehto, joka parhaiten kuvaa yrityksenne/liiketoimintayksikkönne tilannetta seuraavien väittämien kohdalla.

Kuinka yrityksenne/liiketoimintayksikkönne on viimeisten kolmen vuoden aikana kilpailijoihin verrattuna onnistunut...

	1 = paljon huonommin	2 = huonommin	3 = vähän huonommin	4 = samalla tasolla	5 = vähän paremmin	6 = paremmin	7 = paljon paremmin
1. ... saavuttamaan asiakastyytyväisyyden?	○	○	○	○	○	○	○
2. ... säilyttämään nykyiset asiakkaat?	○	○	○	○	○	○	○
3. ... parantamaan asiakaskohtaista kannattuvuutta?	○	○	○	○	○	○	○

10) Tuloksellisuus. Valitkaa asteikolla 1–7 vaihtoehto, joka parhaiten kuvaa yrityksenne/liiketoimintayksikkönne tilannetta seuraavien väittämien kohdalla.

Kuinka yrityksenne/liiketoimintayksikkönne on viimeisten kolmen vuoden aikana kilpailijoihin verrattuna onnistunut...

	1 = paljon huonommin	2 = huonommin	3 = vähän huonommin	4 = samalla tasolla	5 = vähän paremmin	6 = paremmin	7 = paljon paremmin
1. ... kasvattamaan markkinaosuuttaan?	○	○	○	○	○	○	○
2. ... kasvattamaan myyntiään?	○	○	○	○	○	○	○
3. ... kasvattamaan investointien käyttöastetta?	○	○	○	○	○	○	○
4. ... suoriutumaan yleisesti?	○	○	○	○	○	○	○

11) Yrityksenne/liiketoimintayksikkönne toimiala (valitkaa liikevaihdon perusteella tärkein):

- ○ Kaivostoiminta ja louhinta
- ○ Elintarvikkeiden ja juomien valmistus
- ○ Sahatavaran ja puutuotteiden valmistus
- ○ Massan, paperin ja paperituotteiden valmistus
- ○ Kemikaalien, kemiallisten tuotteiden ja tekokuitujen valmistus
- ○ Metallien jalostus ja metallituotteiden valmistus
- ○ Koneiden ja laitteiden valmistus
- ○ Elektroniikka ja sähkötuotteiden valmistus
- ○ Sähkö-, kaasu- ja vesihuolto
- ○ Tukku- ja vähittäiskauppa
- ○ Kuljetus, varastointi ja tietoliikenne
- ○ Rahoitus-, ja vakuutustoiminta
- ○ Kiinteistö-, vuokraus-, ja tutkimuspalvelut
- ○ Muut liike-elämän palvelut
- ○ Muu, mikä ?

12) Kilpailu toimialallanne. Valitkaa asteikolla 1–7 vaihtoehto, joka parhaiten kuvaa yrityksenne/liiketoimintayksikkönne toimialaa seuraavien väittämien kohdalla.

	1 = Täysin eri mieltä	2 = Eri mieltä	3 = Jokseenkin eri mieltä	4 = Ei eri eikä samaa mieltä	5 = Jokseenkin samaa mieltä	6 = Samaa mieltä	7 = Täysin samaa mieltä
1. Kilpailu alallamme on säälimätöntä.	○	○	○	○	○	○	○
2. Kilpailijamme ovat erittäin aggressiivisia.	○	○	○	○	○	○	○
3. Alallamme on kova hintakilpailu.	○	○	○	○	○	○	○

13) Myymme asiakkaillemme pääasiassa (valitkaa liikevaihdon perusteella tärkein):

- ○ Standardituotteita
- ○ Stardardituoteitta ja näihin liittyviä palveluita
- ○ Räätälöityjä tuotteita
- ○ Räätälöityjä tuoteitta ja näihin liittyviä palveluita
- ○ Standardipalveluita ja näihin liittyviä oheistuotteita
- ○ Räätälöityjä palveluita
- ○ Räätälöityjä palveluita ja näihin liittyviä oheistuotteita

14) Yrityksenne/Liiketoimintayksikkönne henkilöstö (2005):

0 - 20

15) Yrityksenne/liiketoimintayksikkönne liikevaihto milj. euroina (2005):

Text

16) Asemanne yrityksessänne/liiketoimintayksikössänne:

- ○ Markkinointipäällikkö
- ○ Markkinointijohtaja
- ○ Myyntipäällikkö
- ○ Myyntijohtaja
- ○ Avainasiakaspäällikkö
- ○ Asiakkuusjohtaja
- ○ Tietohallintopäällikkö
- ○ Tietohallintojohtaja
- ○ Toimitusjohtaja
- ○ Joku muu, mikä?

17) Kuinka kauan olette työskennelleet nykyisessä työssänne (vuosina)?

Text

18) Kuinka kauan olette työskennelleet alalla (vuosina)?

Text

Jos haluatte tiivistelmän tuloksista, niin täyttäkää yhteystietolomake.

Yhteystietolomake

Etunimi

Sukunimi

Sähköposti

☐ Haluan lähettää vastaukset

Lähetä | Palauta alkuperäiset

Appendix 6 T-values and significance

T-value	**Significance**
<2.334	p<0.01
<1.648	p< 0.05
<1.283	p< 0.10

Appendix 7 Original item loadings of the measures

Action-oriented CIU	
Aou1	0.648408
Aou10	0.530461
Aou2	0.586938
Aou3	0.563611
Aou4	0.801764
Aou5	0.719905
Aou6	0.560487
Aou7	0.807284
Aou8	0.58763
Aou9	0.457126
Extent of CI collected and stored	
Cicoll	0.42685
Customer relationship orientation	
Corient1	0.745217
Corient2	0.913943
Corient3	0.969933
Corient4	0.984303
Corient5	0.293828
Seller's customer performance	
cperf1	0.865195
cperf2	0.70188
cperf3	0.781709
Extent of CRM systems use	
Crmu1	0.493467
Crmu2	0.600753
Crmu3	0.476776
Crmu4	0.573362
Crmu5	0.490352

Experience with CRM systems	
Crmyears	1.220806
Dependence on current customers	
dep1	0.505783
dep2	0.519303
dep3	0.137551
dep4	0.445191
dep5	0.243502
dep6	0.238908
Heterogeneity of current customer base	
het1	0.380108
het2	0.518932
het3	0.434776
het4	0.36733
het5	0.530545
het6	0.496156
het7	0.691279
Knowledge enhancing CIU	
Keu1	0.497858
Keu2	0.316824
Keu3	0.588743
Keu4	0.51122
keu5	0.518104
keu6	0.411175
keu7	0.559369
keu8	0.457614
keu9	0.659986
Symbolic CIU	
su1	0.613199
su2	0.609597
su3	0.371324
su4	0.618692
su5	0.101034
su6	0.022417

Appendix 8 Summary of the final measures in research model

Construct	# of items	Scale	C.R.	Alpha	AVE
AOCIU	6	1–7	.91	.88	.62
KECIU	6	1–7	.91	.88	.62
SCIU	3	1–7	.79	.63	.56
CIe	1	1–11	-	-	-
CRMe	1	1–3	-	-	-
CRMu	3	1–7	.85	.74	.66
CO	4	1–7	.92	.88	.74
CP	3	1–7	.85	.74	.66
HCB	4	1–7	.85	.79	.60
DCC	2	1–7	.92	.84	.86

Appendix 9 Correlation matrix of the latent constructs

	AOCIU	KECIU	SCIU	CIe	CRMu	CRMe	CO	CP	DDC	HCB
AOCIU	1.000									
KECIU	.740**	1.000								
SCIU	-.262**	-.275**	1.000							
Cie	.446**	.513**	.000	1.000						
CRMu	.287**	.191*	-.053	.088	1.000					
CRMe	-.085	-.187	-.035	-.151	.020	1.000				
CO	.480**	.502**	-.395**	.209*	.308**	.016	1.000			
CP	.351**	.204*	-.201	.014	.247**	-.104	.310**	1.000		
DDC	.265**	.265**	-.166	.086	.030	.040	.200*	.142	1.000	
HCB	.086	.090	.101	.067	-.060	.047	-.070	-.067	.087	1.000

** = Correlation is significant at the .01 level (2-tailed)

* = Correlation is significant at the .05 level (2-tailed)

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