B2B2B User Interaction and Innovation: 
A Framework for Complex Customer Relationship Management

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Customer Relationship Management (CRM) refers to a set of management procedures that allow firms to manage their interactions with customers. On the other hand, building close relationship with customers is also a capability that helps to enhance innovation performance (Battor & Battor, 2010).

While former studies have put an emphasis on individual users and their roles in the innovation process, we focus on user firms and aim to develop a framework for innovating with B2B2B users in a complex setting by organizing CRM.

Case study has been conducted to explore the value creating processes and encounter processes of a producer, its distributors, and its users. Empirical findings show that our proposed framework can be applied to manage the interaction between these firms. In doing so, it can also foster innovation process of the producer.
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<td>B2B</td>
<td>Business-to-Business</td>
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<td>Customer Relationship Management</td>
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1. INTRODUCTION

Customers have always been important to the existence and development of a firm. They are not just buyers any more. On the contrary, customers as users, by contributing their knowledge and skills, trying and experiencing, can also be ‘source of competence’, which leads to competitive advantage of a firm (Prahalad & Ramawamy, 2001).

In an attempt to increase sales and profitability through customer loyalty, Customer Relationship Management (CRM) was introduced and has been widely accepted by firms (Payne and Frow, 2005).

1.1. Background

CRM refers to a set of management procedures that allow firms to manage their interactions with customers. CRM is described as “the firm’s activities that are oriented towards creating and maintaining long-term relationships with their customers to obtain their loyalty and satisfaction” (Landroguez et al., 2011). Despite being widely adopted, CRM implementation has a low rate of success due to some reasons, for example, firms’ overlooking non-technological side of CRM, i.e., integrating culture, process, people and technology (Finnegan & Currie, 2010). Yet, its importance keeps it at firms’ agenda. For Business-to-Business (B2B) markets, researchers report that CRM positively affects sales performance, sales effectiveness and collaboration among sales professionals (Rodriguez & Honeycutt, 2011). Another quantitative study of Battor & Battor (2010) found a positive impact of CRM on firms’ performance. Employing in-depth interviews with firms and their B2B customers, Richard et al. (2007) show supportive view on CRM from customers’ perspective. Particularly, customers also believe that CRM technology can bring them benefits, for example, better communication with and better understanding from suppliers.

Recently, customers and users have become more and more crucial to a firm’s innovation process (IP). Their roles are not limited to being respondents for research surveys or giving feedback for product tests, they are also engaged as innovators. A variety of products such as mountain bikes, skateboards and surfboards stemmed from customers/users’ designs and customization (Herstatt & von Hippel, 1992). In their literature review, Bogers et al. (2010) provide a list of sectors where researchers have found users firms as sources of innovation, for example, industrial machinery, machine tools. Consequently, now firms can no longer act autonomously without interaction with customers. Facing the increasingly participatory
trend in value co-creation (Maklan et al., 2008), firms without effective CRM will not be able to make use of customers’ influence on new product development, especially when dealing with data collection and transmission from customers to in-house product development unit. As a result, a firm’s CRM strategy should also take into consideration the active roles of customers (or users). That is, together with activities by firms towards customers/users, CRM should encourage and facilitate customers/users in generating ideas or other contributions to new product development or innovation.

1.2. Problem discussion

CRM has been well studied in relation to competitive strategies (e.g., Payne & Frow, 2005), firm’s performance (e.g., Battor & Battor, 2010) or customer value (e.g., Landroguez et al., 2011). Moreover, research has been made on the interrelation between CRM and innovation. For instance, an empirical study of Battor & Battor (2010) among 180 CEOs in the UK showed that the higher CRM capability a firm possesses, the higher innovation capability is associated. Building close relationship with customers is a capability that helps to enhance innovation performance (Battor & Battor, 2010). In that sense, CRM is becoming more meaningful in the sense that it assists in engaging customers or even potentially, users, to the IP of a firm. Additionally, CRM can help firms to classify and maintain the flow of ideas from customers/end-users. CRM is proven to lead to different kinds of innovation of a firm when Lin et al. (2010) investigated the effect of CRM external-oriented programs (information sharing, customer involvement, long-term partnership, joint problem solving, and technology-based CRM) on different kinds of innovation (product innovation, service innovation, process innovation, market innovation and administrative innovation). Though this partly indicates the innovative function of CRM, studies have been made with regard to value creation outcome more than value creation process (Boulding et al., 2005). As a result, it is barely understood how CRM connects to innovation and “renewal of value creation for customers” (Boulding et al., 2005). Moreover, the internal aspects of CRM programs have not received much attention (Lin et al. (2010).

The potential of CRM to lead to innovation can be partly explained by value creation and co-creation processes. Simply put, firms can manage their customer relationships by employing three steps: acquiring customers by communication of value proposition, maintaining relationships by good services, and extending these relationships by tailored
products/services to specific customer segments (Chaffey, 2003, as cited in King & Burgess, 2008). Thus, in implementing CRM programs, a firm aims at long-term profitability by building and maintaining its long-term relationship with customers, and at the same time, an improvement in customers’ value should be developed. This value creation, together with the active role of customers in creating value for themselves, forms value co-creation, which is also an approach to innovation. Thus, the integration of CRM and value co-creation into innovation merits more investigation.

With the increasing importance of customers/users in the IP, researchers have devoted their time and effort to investigating customers/users integration. Although the direct target of CRM is customers, it is necessary to also mention “users” since literature on customer integration shows particular interest amongst the academia towards the “lead user concept” (Sandmeier et al., 2010), which is crucial in user integration and user innovation.

When it comes to customer involvement, there is a difference with regards to the type of markets, i.e., business or consumer market. Failing to evaluate the selling context would make firms face unsuccessful CRM implementation (Ahearn et al., 2012). Considering the selling context, from the relationship perspective, Tamošiūnienė & Jasilioniene (2010) classify three types of CRM relationships as follows: B2C (Business-to-Consumer), which includes formal relationships and ad hoc relationships with the aim to create value and improve customer relationship; B2B relationships, which are managed among businesses as a result of formal, contractual arrangements; and B2B2C (Business-to-Business-to-Consumer), in which producer sells their products to consumers with the help of trading partners/distributors. While B2C implies direct relationship between producers and consumers/users, B2B2C indicate their indirect relationship of which trading partners is the bridge. It can be seen that the third one is also the combination of B2B and B2C. However, this classification considers the last node as consumers. As a result, literature on user/producer interaction puts an emphasis on B2C (e.g. Payne et al., 2008). In the case that users are user firms, a fourth type of CRM relationship can be identified: B2B2B. In this type of relationship, the first B refers to producer, the second to distributors/trading partners, and the last B refers to user firms. Literature dealing with this relationship falls within the supply chain, outsourcing research stream. Others reduce the complexity of the context by using “customer” and “user” interchangeably (e.g., Brockhoff, 2003). This is also consistent with the results from reviewing literature on users’ roles stream.
In this research stream on users’ role in the IP, a large number of studies have given special attention to user involvement, and its extreme case, user innovation. Some researchers have pointed out several disadvantages of user innovation, e.g. users’ innovation is limited to “functionally new products”, and not all types of new products because their focus is on the need and context of use (von Hippel, 2005), or users can possibly hamper the development process of fundamentally new products (Lagrosen, 2005). However, some empirical studies, e.g. in Lettl (2007), have proven that users are also capable of introducing radical innovation. Although there exits some limitation, the potential capability for innovation of users is tremendous and firms can involve users in the IP at relatively low cost (Piller, 2008).

Users can be classified to intermediate and consumer users, in which “intermediate users” are user firms, who “use equipment and components from producers to produce goods and services” (Bogers et al., 2010). Researchers have been mentioned the roles of users in IP however these are consumer users (see Grunert et al., 2008). A literature review on users as innovators by Bogers et al. (2010) shows that some issues remain unexplored so far, for instance, how producer can retrieve information or enhance user’s innovation, or “the roles of individuals in user firms”.

On the other hand, taking a step further to address how firms can integrate customers as users in their IP, the majority of studies have assumed that direct involvement is possible owing to direct interaction between producers and users (see Grunert et al., 2008). Nevertheless, this direct interaction is not necessarily the common case. Firms that do not have direct link with customers/users, e.g. those who are reliant on intermediaries, also fall within B2B2B relationships. Bull (2010), in his article, describes how a firm employs CRM systems to evaluate its intermediate agents with an aim to improve customer services. However, this study is limited to dealing with intermediate relationships only. The link between B2B2B CRM and the IP has not been highlighted for the case of firms who do not have direct interaction with their users in B2B2B markets.

1.3. Problem formulation and purpose

From the above discussion, some problems are identified:

- Little has been known how CRM and IP interconnect, especially the way in which CRM can foster innovation among firms and their users. As a result, CRM is being overlooked in the processes of linking customers to the IP. Every firm has some kind
of CRM to employ towards customers. Thus, one issue should be considered is to utilize this already-established mechanism to reach to users and transfer innovation from user’s domain into firm’s process, or co-create with them.

- B2B2B CRM in the case of firms that do not own direct interaction with users should be explored in more detail.
- User firms should need more investigation.

Taken together, these gaps in the literature and their significance in practical context indicate, for this thesis, a research problem that needs to be investigated. Thus, the main research question is:

How could producers in B2B2B markets organize CRM to innovate with their users?

The purpose of this thesis is proposed a framework for innovating with users. The proposed general framework will show how these firms, by employing B2B2B CRM, can innovate with their users. This thesis will contribute to the understanding on innovation with user firms as a result of interaction and co-creation, which are managed by CRM, between firms and user firms. In doing so, this thesis at the same time will provide more understanding on how CRM and IP relate to each other.

1.4. De-limitation

The focus of this thesis is on the special cases of producers that do not have direct interaction with user firms. It is not the purpose of this thesis to investigate firms in B2B2B markets, yet having direct interaction with users.

1.5. Thesis structure

This thesis is structured as follows. Chapter 1 gives an introduction of the research problem, the main research question and purpose of the thesis.

In chapter 2, main theory streams that are relevant and necessary to address the research question are presented. In particular, literature on CRM, CRM and IP, and users and IP are discussed. This chapter ends with a theoretical framework for innovating with user firms through B2B2B CRM.
Methods and techniques to investigate the problem under scrutiny are elaborated in chapter 3, in which the choice of case study research methods, data collection and analysis techniques are presented. This chapter also includes a discussion of quality of research, i.e., reliability and validity.

In chapter 4, a case description is given, where findings from empirical study are presented. This chapter is followed by an analysis in chapter 5, in which empirical findings are discussed and related back to the problem formulation and research question.

Finally, conclusions and implications are presented in chapter 6 together with the thesis’s limitations and suggestions for further study.
2. THEORY

In this chapter, a literature review on relevant research streams, i.e., CRM and IP, users and IP, is given. Based on these research streams, a theoretical framework for innovating with user firm through CRM B2B2B is described.

2.1. Customer Relationship Management:

2.1.1. CRM definition

For a general definition, “CRM is as a process that aims to bring together diverse pieces of information about customers, sales, marketing effectiveness, and responsiveness and market trends” (Finnegan & Currie, 2010). Emphasizing on the role of salesperson, Ahearne et al. (2012) suggest their definition of CRM as “the process of capturing customer information and developing an appropriate strategy in consultation with the salesperson in order to optimize sales performance”. Also viewing CRM as a process, Zablah et al. (2004) introduce a CRM conceptualization: ‘‘CRM is an ongoing process that involves the development and leveraging of market intelligence for the purpose of building and maintaining a profit-maximizing portfolio of customer relationships’’. Though based on a macro-process view, this integrated definition may not deliver the core components and processes in CRM.

Other definitions of CRM can be found in a large number of articles. For instance, Payne & Frow (2005) found 12 definitions and descriptions of CRM in the literature. However, this thesis adopts the CRM concept introduced by Boulding et al. (2005)

“Indeed, CRM goes beyond a customer focus. Not only does CRM build relationships and use systems to collect and analyze data, but it also includes the integration of all these activities across the firm, linking these activities to both firm and customer value, extending this integration along the value chain, and developing the capability of integrating these activities across the network of firms that collaborate to generate customer value, while creating shareholder value for the firm”.

for the following reasons:

- CRM implementation requires an integrated view (Wahlberg et al., 2009), the “coordination of channels, technologies, customers, and employees” (Boulding et al.
(2005). For example, to be integrated with the IP, it requires more than technology to collect, analyze and utilize customer data. Organization culture, human resource should support the information management. Both internal-oriented programs (i.e., how to manage the CRM system) and external-oriented programs (i.e., interaction with customers) should be considered and should work well together to fulfill CRM’s purpose.

- Collaboration and value co-creation are among the important processes of CRM through which users can be involved, and the integration along value chain can enable the possibility for CRM to extend to other players in the value chain. Thus, this definition is relevant when we consider CRM in B2B2B markets with the presence of producer, distributors and user firms.

- This definition takes ‘firm’s capability to manage, operate, cooperate, develop, and adapt’ into consideration. It is important to include capability of firms since it implies the capability to performance (operational capability) and the possibility to update, adjust capability (dynamic capability) when both CRM and the IP are faced with the changing environment and customer needs.

In this thesis, we focus on the aspects of interaction and integration across the network of firms in the value chain that collaborate to generate value, resulting in mutual benefits for producer, distributors, and user firms. In doing so, producers who do not directly interact with their users can seek a way to value co-create and innovate with their users through CRM.

2.1.2. CRM perspectives

CRM has its root in relationship marketing, in which managing the “right” type of relationships is of benefit to firms (Reinartz et al., 2004). In using CRM, firms should consider customer, relationship and management, which together constitute CRM (Tamošiūniene & Jasiliūnienė, 2010). In this way, to efficiently manage CRM, firms need to integrate its activities “into the fabric of the overall operations of the firm” (Boulding et al., 2005). Also, firms need to identify their real customers who bring them profit and growth, then manage CRM relationships through two-way interaction and communication (Tamošiūniene & Jasiliūnienė, 2010). CRM mechanisms are divided into internal- and external-oriented programs, with the former focusing on organization structure, culture and
knowledge management, while the latter implies interaction with customers, such as information sharing, customer involvement, long-term partnership, joint problem solving, and technology-based CRM (Lin et al., 2010).

In the literature, there are 4 research streams related to CRM: strategic CRM, analytical CRM, operational CRM, and collaborative CRM (Walhberg et al., 2009). While a large body of CRM research has been made on strategic and analytical CRM, the latter two streams have received sparse attention (Walhberg et al., 2009).

In the first stream, CRM is considered as a functional strategy that focuses on customers. From a strategic approach, Payne & Frow (2005) define CRM as being related to creating and improving shareholder’s value through relationships with key customers and customer segments. Moreover, CRM enables the flows of information and data so that firms can enhance their understanding about customers and grasp the opportunity to co-create value with their customers (Payne & Frow, 2005). Consequently, CRM is not limited to sales and marketing activities of a firm. Rather, it has a broader scope which is the integration of the firm’s capabilities and resources (Payne & Frow, 2005; Walhberg et al., 2009). Also, a process-based framework for CRM strategy in large industrial firms has been presented by Payne & Frow (2005). Components of a CRM a strategy encompass (i) strategy development process, in which an assessment of the firm’s business strategy and customer strategy is implemented as the starting point of a CRM strategy; (ii) value creation process, in which values customers receive, values firm receives, and potential for co-creation as part of value exchange are determined; (iii) multichannel integration process, which turns the outcomes from the two previous processes into value-adding activities by choosing and managing interactive channels (physical, virtual or combined); (iv) information management process, which is comprised of collecting and manipulating customer data and information through the use of information technology systems, analytical tools, front and back office applications; and (v) performance assessment process (Payne & Frow, 2005). Among these processes, value creation and multichannel integration process have connection with the IP since they involve interaction with customers who are potentially partners in the IP. On the other hand, information management process, which aims to capture customer’s insight through analyzing customer data, also brings input to the firm’s IP. Understanding customer needs and preferences can lead to product innovation (Battor et al., 2008).
The *analytical* research stream targets utilizing customer data by collecting and analysing these data for sales and marketing campaigns while the *operational* CRM stream deals with supporting sales and customer service team with respect to customer’s history and data (Walhberg *et al*., 2009). And finally, *collaborative* CRM is the interaction with customers, through personal contact or telephone, (e)mail, SMS, and website (Gummesson, 2008; Walhberg *et al*., 2009). Although CRM does employ technology, with which analytical, operational and collaborative CRM are facilitated, it does not imply that technology is the most important aspect of CRM.

Zablah *et al.* (2004) have another view on CRM literature by reviewing five perspectives: CRM as a process, a strategy, a philosophy, a capability, a technology. According to their research, as a process, CRM builds and maintains relationships with channels and users, while as a strategy, CRM requires firms to allocate resources and efforts to customers that bring value the most. The main idea behind CRM philosophy is that firms should focus on customers and their changing needs (Zablah *et al*., 2004). For CRM as a capability, they mention that firms need to adapt their resources to meet customer’s changing need. Last but not least, in research stream that puts an emphasis on technology, the knowledge and interaction management technologies should be considered as key resources in CRM (Zablah *et al*., 2004).

It should be noted that to provide value to customers/end-users depends on the interaction and integration with value chain partners (Chakravorti, 2009), who can be distributors/intermediates. Furthermore, Chakravort (2009) introduced a process framework to manage CRM among value chain partners, which then results in an improvement in competitive advantage of these firms. Five inter-organizational CRM processes that can be extended to other firms include strategy creation, customer value enhancement, customer experience management, performance assessment, and knowledge management (Chakravorti, 2009). The distributors/business customers possess users’ data, thus, they are qualified to be included in these inter-firm CRM processes.

When it comes to CRM extensions to end-users, Kracklauer *et al*., (2001) give practical evidence how producers of consumer markets and their trading partners cooperate through employing a mutual customer approach, and reach to customer. Joint CRM efforts were implemented by supplier (Procter & Gamble) and its retailer (North-American Trading Company A&P) in identifying and analyzing target customers, building loyalty. For
instance, P&G’s customer data were supplemented by A&P’s data from customer card program, both parties joined together for an online marketing campaign, and A&P’s outlets could have data of the target customer to keep track of (Kracklauer et al., 2001). Apparently, these joint efforts, which were beneficial to both supplier and retailer, were CRM’s external-oriented programs (information sharing, customer involvement, long-term partnership, joint problem solving, and technology-based CRM) to interact with customers/users. This puts a note that collaboration between value chains partners are made on external oriented programs. This collaboration between supplier and trading partner is also consistent with findings of Jeong et al. (2009) their study in manufactured home market. A CRM algorithm called “manufacturer-retailer relationship optimization model (MRROM)” was suggested by Jeong et al. (2009) to joint effort of manufacturers retailer to meet users’ requirement.

For the focus of B2B2B in this thesis, the extension of CRM to B2B partners and users is applied. Linking processes from strategy creation to knowledge management among separate firms, though being value chain partners as suggested by Chakravrti (2009) is not an easy task. It is, if possible, rather made on external-oriented programs, which are the programs aiming at interaction with users. In this case, collaborative CRM should be emphasized.

2.2. Customer Relationship Management and Innovation Process

An IP is the process of activities, interaction between different sources to bring about innovation as its outcome. It is the “temporal sequence of events that occur as people interact with others to develop and implement their innovation ideas within an institutional context” (Van de Ven & Poole, 2000). Interactions also are made with others from outside the firm, such as supplier, distributors, customers, users.

The IP should match market demand and technological opportunity to be “a key source of sustainable competitive advantage” of a firm (Dodgson et al., 2005). IP has evolved over time, from the simplest ones, i.e. technology push or market pull, to more integrated ones like the integrated or system innovation and network model as described by Rothwell (1994). While the first three models emphasize on the sources of innovation, the latter two focus on the process of innovation (Dodgson et al., 2005). In the fifth generation of IP, which is also considered as an enlarged model of the fourth generation, strategic integration with external actors such as customers, suppliers, innovation communities have been increasing in terms of technologies, market, and finance (Dodgson et al. 2008).
Considering the integration of customer in the IP, research has been made in this regard. It is shown that CRM has an advantageous impact on the innovation of a firm. An empirical study (Battor & Battor, 2010) showed that the higher CRM capability a firm possesses, the higher innovation capability is associated, and building and maintaining close relationship with customers is also an operational capability to enhance innovation capability. This can be partially explained by the fact that the co-creation of customers through CRM can facilitate the IP and make the product/service highly accepted by customers. Their quantitative research has also proven that CRM is an antecedent to innovation. With CRM, a firm can enhance innovation performance by having better understanding of customers’ needs (Battor & Battor, 2010). Emphasizing on the external aspects of CRM, Lin et al. (2010) have found the relationship between external CRM programs and innovation capability. Their observation of small and medium firms also revealed that CRM and innovation programs should be aligned and implemented together.

To illustrate the interconnection between CRM and the IP, Mascarenhas et al. (2004) presented a model for customer involvement in new product value chain cycle, through the firm’s CRM. CRM is assumed to exist in all stages of developing a product and allows customers to take part in these stages in terms of supplier relationship, employee relationship and partner relationships management (Mascarenhas et al., 2004). For instance, at ‘ideation’ stage, key customers can involve in new product value chain together with key suppliers, engineers and designers, and channel partners.

Furthermore, the connection between CRM and the IP is embedded in the process of value co-creation and interaction.

- Value co-creation is one process in CRM strategy. Value co-creation is determined in the second process of CRM strategy framework and is transformed to value-adding activities through multichannel integration, which is considered as the ‘point of co-creation’. It is also the core concept of CRM (Boulding et al., 2005). In multichannel integration, customer data are collected through interaction. As the ‘driver of value co-creation’ (Andreu et al., 2010), interaction between customer and the firm is of great significance.

- In the IP, value co-creation occurs when customers/users are engaged and interact to create value. Here value co-creation is more focused on in comparison to that of
CRM strategy. Moreover, the interactive nature of innovation is illustrated in the IP (Jensen et al., 2007).

Value co-creation is as an approach to innovation. In this research stream, customers are considered as value co-creators (Payne et al., 2008). In addition, dialogue and interaction with customers is extremely important (Prahalad & Ramawamy, 2004) in co-creation. In particular, Forsström (2003) argues that a buyer and a seller, in their relationship, through interaction can actively create value.

Boulding et al. (2005) argue that some important measures of CRM such as retention, customer life time value, should be complemented by measures that directly refer to value co-creation. This will enhance firm’s innovation activities (Boulding et al., 2005) or IP. Additionally, to fully exploit the potential role of customers as co-creators, firms need to make use of their CRM programs whose main function is to build and maintain long-term relationship with customers.

2.3. Users and Innovation Process

When it comes to the role of users in the IP, there have been two research streams exploring this subject, namely customer involvement and user involvement (The terminologies ‘integration’ or ‘engagement’ have been interchangeably used widely to describe “involvement”). It is necessary to mention customer involvement stream since it deals with both customers and users’ role, to some extent.

2.3.1. Customer involvement

In this research stream, customers are assumed to be buyers, but not necessarily users. Research on customer involvement has gone far since von Hippel coined ‘customer-active-paradigm’ in 1978 (Bogers et al., 2010). Some studies find that the motivation for business customers to take part in collaborative innovation includes incentives as to price reduction, exclusive rights to products during a specific time (Greer & Lei, 2011).

To explore how customers contribute to the IP, Sandmeier et al. (2010) have done their study on the basis of learning theory and found that the continual integration of customers in product development facilitates faster and more efficient reaction to market changes.

Regarding methods to integrate customers in the IP, from the marketing perspective, Lagrosen (2005) in a study of customer engagement in new product development found that
firms employ prototype testing, focus group interviews, lead-users, customer visits as methods for involving their customers. These methods are limited to the first two modes of interaction between firms and customers, i.e. design for customers and design with customers, as mentioned by Piller and Ihl (2009). A framework was proposed by Sandmeier et al. (2010) for continual integration of customers in industrial new product development through three stages: access to customer contributions, release of customer contributions, and absorption of customer contributions. It can be said that all methods start with identifying the “right customers” with such characteristics as financial attractiveness, closeness of customers and the lead user characteristics (Sandmeier et al., 2010). After that will be dissemination of knowledge and utilization of knowledge (Sandmeier et al., 2010).

2.3.2. User involvement

In this stream, users are assumed to be direct customers (see Grunert et al., 2008). In contrast to mass consumer markets, where interaction between firms and most users is limited (Grunert et al., 2008), B2B markets demand a different way of interaction. B2B market is different from consumer markets in several aspects, such as buyers or customers are professionals, buying process is formalised and standardised with different actors in decision making process, and risks relating to finance, product malfunction or disruption of buyers’ production process (Grunert et al., 2008).

User involvement stream puts emphasis on user innovation. Innovation by user firms has been reported in the literature. de Jong & von Hippel (2009) found process innovation is common among 498 high technology firms in Netherlands, and 48% of these innovations were transferred to suppliers without cost. Bogers et al. (2010) has synthesized studies innovation by user firms and found that these studies report innovations in various sectors, from chemical industry to scientific instruments, industrial machinery, machine tools.

Lead users are defined as people who are “ahead of the majority of users in their populations with respect to an important market trend and they expect to gain relatively high benefits from a solution to the needs they have encountered there” (von Hippel, 2005). Innovation by lead-users is believed to be more commercially attractive (von Hippel, 2005) and this method has been used to identify breakthrough ideas and new market opportunities, which conventional market research methods can not lead to. The reason is that ideas are generated by lead-users, not firms themselves (von Hippel & Katz, 2002). Some researchers have pointed out several disadvantages of user innovation, e.g. users’ innovation is limited to
functionally new products”, not all types of new products because their focus is on the need and context of use (von Hippel, 2005). However, some empirical studies, e.g. in Lettl (2007), have proven that users are also capable of introducing radical innovation. Moreover, firms can involve users in the IP at relatively low cost (Piller, 2008). Lead user method is considered to be generally applied to products/services where users have more specialized knowledge than manufacturers themselves, and to user firms, who can be more reliable than consumer users.

Recently, user-driven innovation has been differentiated from use-oriented innovation (Grunert et al., 2008). While the former refers to innovation that is initiated by users, the latter has a different scope that includes user involvement (Grunert et al., 2008). Defining user-driven innovation with an emphasis on ‘an integrated analysis and understanding of users’ want, needs and preferences’, Grunert et al. (2008) assumed that users can be direct customers or end-users, and the needs of users (including both direct customers and end users) plays a key role.

To involve users in the IP, firms need to acquire several competences. Lettl (2007) also argues that different user involvement competence will lead to different outcome, i.e. radical or incremental innovation. To identify creative users with lead-user characteristics, firms need to develop “user identification” capability (Lettl, 2007). In addition, personnel such as employees from RD, marketing or new business development often interact with users (Lettl, 2007). To ensure high-quality interaction with users for the purpose of innovation, the competencies of employees to communicate effectively with users are required and can be enhanced through personnel selection, incentives and training (Lettl, 2007).

In general, methods to engage user firms/customers in the IP include lead users method (von Hippel, 2005), collaborative prototyping (Terwiesch & Loch, 2004), user innovation toolkits (von Hippel & Kartz, 2002), which facilitate the dissemination of knowledge during the IP (Sandmeier et al., 2010). These approaches can be applied to get user firms in the IP once a way to interact and collaborate with them is established.

2.3.3. Negative impacts of user and customer involvement

While collaborative innovation with users and customers are believed to improve product viability (van de Panne et al., 2003) or better firm performance, there are concerns over the
side-effects of this involvement. One argument is that users/customers can possibly hamper the development process (Lagrosen, 2005). There is also a possibility of missing radical innovation (Greer and Lei, 2011) and coming up with ‘imitative innovation’ due to the fact that customer’s preferences depend greatly on products or services they are familiar with (van der Panne et al., 2003). This impact can further hamper in-house innovation team’s creativity (van de Panne et al, 2003).

From an innovation management point of view, Piller & Ihl (2009) also see strong relationship with customers as a potential inertia for innovation since firms can become too attached with customers; thus, reduce its investment in developing new functional innovations. Apart from that, customers act strategically as a result of lack of trust and consider for privacy issues (Boulding et al., 2005) or less experienced customers/users consider join efforts with firms as a chance for their immediate product needs, rather than a practice (Greer & Lei, 2011). It may so hard to keep long-term relationship with customers when firms do not adopt their suggestions (Greer & Lei, 2011). Last but not least is cost relating to user/customer involvement in the IP (Greer & Lei, 2011; Lagrosen, 2005; Lettl, 2007). Though it may not be a negative impact, it should be considered since it is one reason for the ineffectiveness of customer involvement from both firms and users’ perspective (Greer & Lei, 2011). For example, users may expect slower pace of innovation so that their cost of operating and maintaining will not become higher (Brockhoff, 2003).

Thus, these negative impacts of user/customer involvement should be taken into consideration and reduced when possible (See Enkel et al., 2005 for activities to minimize risks of customer integration).

2.4. B2B Issues in engaging user firms in supplier’s innovation process

In the literature, a majority of research studies have been made with regards to consumer markets. For example, Berger et al. (2005) have 20 case companies in consumer goods markets in their article on co-designing the customer interface, Andreeu et al. (2010) interviewed 5 retailers and 10 consumers in their study on value co-creation among retailers and consumers.

Although there are not as many studies as B2C markets with regards to the IP, B2B markets also attract much interest in terms of supply chain management, relationship management.
These research streams do not directly mention users-suppliers and the IP, yet they give some indications as to B2B issues when firms attempt to engage industrial customers/users in their IP. For instance, using Agent Theory, van der Valk & van Iwaarden (2011) present propositions for monitoring activities in buyers-subcontractors-end customers triads to deal with the fact that buyers increasingly hire subcontractors to provide and delivered service directly to buyers’ customers. However, this model cannot be applied to our case since the firms do not have direct interaction with users.

In the supply chain including supplier, trading partner, and users, the supplier may have an external subcontractor implement services (maintenance, for example) at users’ firms (van der Valk & van Iwaarden, 2011), or supply infrastructure (e.g., transportation, warehouses) and expertise on cultures, foreign language (Rickards & Ritsert, 2011). This represents an example of indirect sales and distribution, in which a firm loses direct contact with their users (Rickards & Ritsert, 2011). van der Valk & van Iwaarden (2011) introduce another way to demonstrate the relationships among these actors, known as the triad of supplier - trading partner - user, where the supplier and trading partner have an agreement, and the trading partner delivers the service to users. In consumer market, the risk of channel conflict can be overcome by handling customized products through a distinct channel (Berger et al., 2005). To further support their decision to engage users, suppliers also argue that this initiative is beneficial to retails as well (Berger et al., 2005). However, there is a risk that when trading partners are involved deep, the transformation of firm in the long-term can become difficult (Berger et al., 2005).

2.5. Framework for innovating with user firms/customers

Normally, the ideal way to connect users and IP is by direct interaction and co-creation with users as described in previous sections of this chapter. Since we will investigate the case of firms that do not have direct interaction with users, another path is considered instead. That is, the firms’ CRM-system will be re-organized to reach further to user firms through distributions or business customers. The reasons underlying this path are as follows:

In the light of relationship marketing, Gummesson & Polese (2009) demonstrate networks of businesses and consumers, where interaction between all nodes is possible thanks to the combination of both B2B and B2C marketing. The rationale under their discussion is that relationship management and CRM are not merely applicable for B2C or selected cases. Rather, they should be applied to marketing in general (Gummesson & Polese, 2009). In
doing so, interaction between these networks is possible. To support their argument, three cases were presented, one of which was a B2B2B2C case of Alenia Aeronautica. Relationships are as follow: Alenia - Boeing - Airlines - Passengers (end users), with the formers being suppliers to the latters. Further assumed that only the Airlines have direct interaction with end-users, they still found that interaction was passed on back and forth through the whole network.

The above mentioned study gives us two indications in relation to ‘interaction’. First, interaction, regardless of direct or indirect interaction, between suppliers and users is possible. Firms without direct contact with users can benefit from the flows of bidirectional interaction of the networks. Our scope is not to explore the interaction to end-consumers. Rather, we will focus on user firms, which is a B2B2B case with the last B being user firms. Second, though implications for the mechanism of interaction, e.g., what motivates actors and facilitates the interaction process, it showed through the lens of marketing that interaction can be implemented through relationship marketing and CRM. As discussed, interaction is an important ‘catalyst’ of IP and CRM as well.

Our framework is proposed based on Payne et al. (2008), which is a conceptual framework for co-creation of value between firms and customers. The three main components in the framework proposed by Payne and colleagues are customer value-creating processes, supplier value-creating processes and encounter processes. Since we aim for a B2B2B case, we add distributors/business customers value creating processes and differentiate between supplier - distributor/business customer and distributor/business customer and user encounter processes. Moreover, following the approach of Andreu et al. (2010), we will explore the matching of all these processes in the buying process and use of user firms. It is necessary to mention that there are many actors in the buying process of customers or the actual users in customer’s firm who tend to contribute to innovation with regards to radical/incremental innovation. de Jong & von Hippel (2009) found that, for user firms’ innovations are common process innovation as a result of user firms’ modification or improvement with regards to the machines they purchased. These user innovations are initiated by such users as a new head of production (for the case of sugar melting machine), an engineer (for a food filling machine) (de Jong & von Hippel, 2009), who often have in-depth knowledge with regard to the domain in which innovation is initiated. This characteristic is similarly found in lead-users for medical field (Lettle, 2007). The framework for user integration through CRM is described as follows.
Figure 1: Framework for innovating with users through CRM B2B2B
(Based on Payne et al., 2008)

2.5.1. Processes in the framework

(i) **Producer value-creating processes**: reviewing co-creation opportunities; planning, testing and prototyping value co-creation opportunities; implementing customer solutions; managing customer encounters, assess value propositions (Payne et al., 2008)

Users can be integrated into producer’s IP thanks to the value co-creating nature of both CRM and IP, and the re-organizing of CRM. More specifically, producer’s CRM which originally aims at user will be re-organized into CRM1. After CRM1 reaches distributors/business customer, it will be translated into and implemented as CRM2 of distributors/business customers. Since all interaction is bi-directional, then users’ data, ideas or innovation can be transported back to CRM, and IP of producers.

Let us have a closer look at CRM. CRM systems comprise of two aspects:

**External-oriented aspects**: external-oriented programmes (focusing on how to interact with customer) include information sharing, customer/user integration, long-term partnership, joint problem solving, and technology-based CRM (Lin et al., 2010).

- Information sharing: on market preferences, market demands, and market competition (Lagrosen, 2005)
- Customer integration (discussed in previous section)
- Long-term partnership: B2B relationships based on trust and commitment between firms (Lin et al., 2010)
- Joint problem solving (Lin et al., 2010)
- Technology-based CRM: the use of CRM technology to facilitate CRM activities (Lin et al., 2010)

**Internal aspects:** organization structure, customer-oriented culture (Wang & Feng, 2011) and knowledge management (Lin et al., 2010).

(ii) **Encounter processes (between producer and distributor/business customer):** include “processes and practices of interaction and exchange” (Payne et al., 2008) between distributor/business customer and producer.

(iii) **Distributor/Business customer value creating processes:** “processes, resources and practice” (Payne et al., 2008) distributor uses to manage its business and relationships with users and producer. These processes include reviewing co-creation opportunities [with users and producer]; planning, testing and prototyping value co-creation opportunities; implementing customer solutions; managing customer encounters, assess value propositions (Payne et al., 2008)

(iv) **Encounter processes (between distributor/business customer and user):** include “processes and practices of interaction and exchange” (Payne et al., 2008) between distributor/business customer and user

(v) **User value-creating processes:** include procedures, tasks, mechanisms, and activities that users use to manage their business and relationships with distributor or can be described as “a series of activities performed by customer to achieve a particular goal” (Payne et al., 2008)

2.5.2. Operational capabilities and dynamic capabilities

Firms choose CRM activities “on the basis of market response to these activities along with other factors, such as particular firm skills and capabilities” (Boulding et al., 2005). As a result, CRM depends on “existing processes” and “preexisting capabilities” (Boulding et al., 2005). On the other hand, CRM is not a static concept, rather, it is dynamic due to its connection with the changing market and changing customers/users need. Considering both
operational and dynamic capabilities is also consistent with the research stream put an emphasis on CRM capability. Day (2002) described this concept as including of (i) an organizational orientation in which customer retention is highly prioritized, and employees are allowed to use their own methods to satisfy customers; (ii) relationship information in which customer’s in-depth data are available and shared across the firm, (iii) configuration which consists of the organizational structure, ‘processes for personalizing the offering’, and “incentives for building relationships”. In the same study, Day (2002) argued that among these three components that constitute CRM capability, configuration is the main factor that differentiates CRM capability among firms. Also, CRM capability of a firm should enable it to transform from ‘static relationship to dynamic ‘learning relationship’, ‘from reactive service to proactive relationship building’ (Sun 2006). Thus, it is necessary to include operational capability and dynamic capability in this study.

Operational capability

In their study on operational capabilities, Wu et al. (2010) identify six operational capabilities: operational improvement, operational innovation, operational customization, operational cooperation, operational responsiveness, and operational reconfiguration. These capabilities are ‘sets of skills, processes and routines developed within the operations management system” (Wu et al., 2009). However, as the differentiation between operational and dynamic capabilities in their study is not clear, i.e. operation reconfiguration is a more dynamic capability than an operational capability, we adopt the definition of Helfat et al. (2007). That is, operational capability is defined as “any type of capability that an organization uses in an effort to earn a living in the present” (Helfat et al., 2007). We will look into individuals and teams, interpersonal skills, daily activities, market orientation: responsive/proactive market orientation (Grunert et al., 2008), inter-firm knowledge transfer.

Dynamic capabilities

The resource-based view (RBV) has been an important model in strategic management. Putting an emphasis on internal capabilities of organization in planning strategy to gain sustainable competitive advantages, it deals with the link between heterogeneous and static resources and capabilities and strategic options (Bretherton & Chaston, 2005). However, dynamic capability-based view adds to RBV by considering the market and external resources and allowing the extension of resources and competences. Dynamic capability is
defined as “the capacity of an organization to purposefully create, extend, or modify its resource base, and consists of patterned and somewhat practiced activity” (Helfat et al., 2007). As consisting of three groups of capabilities, i.e., sensing and shaping opportunities and threats, seizing opportunities and transforming, dynamic capabilities help the firm to keep pace with changes in both technology and customer preferences and innovate profitably (Teece, 2007). The model for dynamic capability as proposed by Teece (2007): sensing - seizing - transforming is used. Sensing opportunities and threats refers to “scanning, creation, learning and interpretive activities”, seizing comprises of delineating customer solution and business model, selecting decision-making protocols, selecting enterprise boundaries to manage complements and control platform, and building loyalty and commitment; and transforming is to recombine and reconfigure both tangible and intangible assets and organizational structures to maintain evolutionary fitness of the firm in the changing environment (Teece, 2007).

<table>
<thead>
<tr>
<th>Processes of DC</th>
<th>Example of DC</th>
<th>DC for CRM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensing</td>
<td>Identifying changing customer needs and to absorb knowledge from customer innovation (Ellonen et al., 2009)</td>
<td>-Co-development with customer</td>
</tr>
<tr>
<td>Seizing</td>
<td>Deliniating customer solution (Ellonen et al., 2009)</td>
<td>-Continuous product development -Building customer loyalty and commitment (Ellonen et al., 2009)</td>
</tr>
<tr>
<td>Transforming</td>
<td>Knowledge management (Ellonen et al., 2009)</td>
<td>Internal training and coaching Learning new pace of decision-making (Ellonen et al., 2009)</td>
</tr>
</tbody>
</table>

Table 1: Examples of Dynamic capabilities for CRM
There have been several studies addressing the impact of dynamic capability and its role in CRM. Common finding is that, without dynamic capability, the implementation of CRM technology can be harmful (Desai et al. (2007) or cannot be successful (Maklan & Knox, 2009).

Dynamic capabilities can included in our framework as (i) context, in which dynamic capabilities for CRM (Desai et al., 2007) will be considered; or (ii) outcome, in which the impact of engaging users in the IP on the dynamic capabilities of firm will be investigated. Considering the processes of sensing-seizing-transforming capabilities (the second and third columns in Table 1), a positive impact of user engagement is expected.

However, for the purpose of this study and to narrow down our scope, we limit the framework to dynamic capability as a context. In doing this, we do not investigate the impact of re-organizing CRM on dynamic capabilities of a firm. Rather, we focus on how dynamic capability should be adapted in order to support the re-organization of CRM.
3. METHOD

This chapter gives a description of methods that have been used in empirical study. First, the choice of research design is given. Then methods for data collection, data analysis are described. The last part of this chapter is a discussion of validity and reliability, which are together the quality of research.

3.1. Research design

Research design is the general plan or framework used for connecting the research problem to the empirical research, which is to answer the research question (Ghauri & Grønhaug, 2010). The choice of research design refers to the strategy that is used to get needed data (Ghauri & Grønhaug, 2010). Thus, the relevant research design, which can be causal, descriptive or exploratory research design, should match with the nature of the research problem, i.e., unstructured or structured problem (Ghauri & Grønhaug, 2010). Amongst these three research strategies, descriptive and causal research designs are relevant for structured or well-understood problems (Ghauri & Grønhaug, 2010). However, while causal research aims to determine the cause-effect relationship, descriptive research emphasizes on structure, rules and procedures to collect data (Ghauri & Grønhaug, 2010). The remaining research design, which is exploratory, is used when the research problem is unstructured or badly-understood.

In this thesis, we will study how producers in B2B2B markets should organize CRM with the aim to innovate with their user firms. Since the problem under scrutiny is not well-understood, an exploratory research is applied (Ghauri & Grønhaug, 2010; Saunders et al., 2009).

Qualitative research

Creswell (2009) describes and differentiates between three research approaches: qualitative research, quantitative research, and mixed methods research. While qualitative research is used to explore and understand from informant’s perspective, quantitative research focuses on testing and verification (Creswell, 2009; Ghauri & Grønhaug, 2010). The difference between qualitative and quantitative research lies in their procedures (Ghauri & Grønhaug, 2010). That is, qualitative research employs non-numerical data while in contrast, quantitative research generates numerical data (Saunders et al., 2009).
The third approach, which is mixed methods research, refers to a research design that uses both quantitative and qualitative methods and procedures (Creswell, 2009; Saunders et al., 2009).

The selection of the appropriate research approach mainly depends on the research problem (Creswell, 2009). Specifically, qualitative research is used when variables to examine are unclear to the researcher; quantitative research is used when testing a theory or assessing the factors that have influence on an outcome; and mixed methods research is most appropriate when qualitative research or quantitative research alone cannot provide best understanding of the research problem (Creswell, 2009).

Our purpose in this thesis involves the exploration and understanding of the research problem, which makes design tend to be qualitative research (Creswell, 2009).

**Case study method**

Relating to methods in the qualitative research in this study, many research strategies and methods generally can match exploratory research (Yin, 2009), for instance, ethnography, grounded theory, case study, phenomenological research, or narrative research (Creswell, 2009). However, case study method is the most relevant for some reasons. First of all, the unit of analysis needs to be investigated in depth and within its context (Creswell, 2009). Secondly, case study allows a wide range of data collection techniques, from document review to observation and interview (Creswell, 2009). This strength of case study makes it a suitable method to utilize.

**3.2. Data collection**

Techniques are documentation/archival records, and interview. Among these, interview is the most significant technique. Being an important source of evidence in case study (Yin, 2009) and the best data collection method (Ghauri and Gronhaug, 2010), interview enables the investigator to get insight into the case. We have conducted focused interviews, in which opened-ended questions belonging to some topics and headings for discussion were asked. Respondents are selected for each case based on the needed data and their roles in CRM and IP. However, interview alone cannot ensure the quality of case study. The risks of response bias, inaccuracy, and reflexivity may affect interview. Hence, interview technique should tentatively be complemented by documentation and archival records.
Following our theoretical framework, we designed the following data collection towards producers (hereinafter will be called the case company), and distributors.

3.2.1. For the case company

Single case study is employed, since “often one case is enough” (Ghauri and Grønhaug, 2010). Yin (2009) summarizes five rationales for choosing single-case study designs. That is, the case is a critical case; a unique or extreme case; a representative or typical case, a revelatory case, or a longitudinal case. However, the case company in this thesis was chosen, not because it is one of these aforementioned five types of case study. Rather, it is a special case that allows further insights than other companies would be able to (Siggelkow, 2007).

The purpose of interviewing with the case company is to understand producer’s value creating process and producer-distributor encounter process. Key informant is the Sales and Marketing Manager of the case company. This key informant has provided the investigator with insight and access to other sources of evidence (Yin, 2009). In that way, interview partners were chosen by the key informant. However, these respondents should need to meet requirements, either have a key position in sales and marketing and are knowledgeable about CRM and customers, distributors), or are well informed about the process of new product development, research and development. Thus, respondents include Sales and Marketing Manager, Sales Area Manager, Product Manager, and R&D Manager. Focused interviews were conducted with respondents. In other words, a set of open-ended questions were prepared and followed in the interviews. The question list was created based on the study of Payne et al. (2008) and the approach of Andreu et al. (2010). The investigator used a more detailed script of what questions and what data were needed to obtain when interviewing the respondents. Respondents were, for instance, asked to describe the firm’s business from both technology and market perspectives, firm’s IP and R&D-activities. Moreover, while developing a general interview script for the case company, this script was customized for each respondent according to their area of expertise. For example, the R&D Manager was interviewed with more questions relating to the IP and the role of distributors and users.

Totally 8 interviews were made with 4 respondents from the case company. Each respondent was interviewed twice with the total time of interview ranging from 60 to 90 minutes. Interviews were made either at the respondents’ office or via telephone. Each
respondent was first interviewed face-to-face at their office, and then follow-up interviews by telephone were made as suggested by Saunders et al. (2009).

The case company’s website was also checked so that the investigator could have more information and complemented data for analysis.

3.2.2. For distributors

Distributors were interviewed in order to gain knowledge into the producer-distributor encounter process, distributor value-creating process, and distributor-user encounter process, and a part of user value creating process. In this qualitative research, variability is necessary (Ghauri & Grønhaug, 2010); thus, multiple case study research is chosen for distributors.

Two issues to be decided were who and how many respondents should be included in the study (Ghauri & Grønhaug, 2010). Some criteria to select distributors were provided to the key informant: distributor who has frequent interaction with producer, or is one important distributor with regard to sales volume/revenue. To select respondent in distributors’ companies, some criteria were used: they have a key position in sales and marketing (so as to be knowledgeable about CRM and users) and/or are well informed and experienced in interaction and collaboration with producer.

The issue was to determine how many cases should be necessary for the study. At first, based on the selection criteria, it was decided that three or four respondents were needed. Four interviewees from four distributors were selected by the key informant in the case company to take part in the interview. These distributors are different with regards to their relationship with the case company, i.e., on-going or just developed relationship, and their offers to users, i.e., product or project. Moreover, being either Managing Director or Sales Director/Manager of the distributors, the respondents all met the abovementioned criteria for choosing respondents. Telephone interviews were selected due to the long distance between the respondents and the investigator (Saunders et al., 2009).

Prior to the interviews with distributors, the investigator had a short interview with the key informant to get general information of the distributors, and the relationship between the case company and each distributor. Then respondents were contacted by the investigator to arrange date and time for the interview. The interviews were conducted by telephone, each lasted 30minutes. Several pseudonyms are used to depict these distributors (see Table 2).
Table 2: Sample description of distributors

<table>
<thead>
<tr>
<th></th>
<th>Alpha Company</th>
<th>Beta Company</th>
<th>Gama Company</th>
</tr>
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<tbody>
<tr>
<td><strong>Location</strong></td>
<td>Finland</td>
<td>Norway</td>
<td>Sweden</td>
</tr>
<tr>
<td><strong>Geographical scope</strong></td>
<td>Local</td>
<td>Local</td>
<td>Sweden and international</td>
</tr>
<tr>
<td><strong>Relationship</strong></td>
<td>Ongoing</td>
<td>Just developed</td>
<td>Ongoing</td>
</tr>
<tr>
<td><strong>Other information</strong></td>
<td>Biggest customer</td>
<td>Potential to develop the relationship</td>
<td></td>
</tr>
<tr>
<td><strong>Types of offer</strong></td>
<td>Machine</td>
<td>Machine</td>
<td>Project</td>
</tr>
<tr>
<td><strong>Respondent</strong></td>
<td>Sales Director</td>
<td>Sales Manager</td>
<td>Managing Director</td>
</tr>
</tbody>
</table>

Distributors’ websites were also checked so that the investigator could have more information and complemented data for analysis.

3.3. Data analysis

Data analysis was implemented simultaneously with data collection process, which is according to Saunders et al. (2009), the interactive nature of data collection and analysis. This is also consistent with Miles & Huberman’s (1994) suggestion that early data analysis should be implemented when data collection process is still going on. As a result, important themes and patterns can be identified together with the data collection process and help to reveal and re-organize future data collection stages (Saunders et al., 2009).

All interviews were transcribed and read many times. In data analysis, the three steps: data reduction, data display, and drawing conclusions/verification (Ghauri & Grønhaug, 2010) are followed. Data reduction refers to the categorization of data, and identification of themes and patterns. After that, data will be displayed, organized in a way that allows conclusion drawing (Ghauri & Grønhaug, 2010). The theories of CRM, IP and the relationship between the two were used. The concept of CRM from its operational side and its connection with the IP will help to reveal possible ways or guideline to engage end-users in the IP of case firm.

For the distributors and users: Considering that the research design for distributors and users is multi-case case study, analysis is based on cross-case synthesis, which treats each case as a separate study (Yin, 2009). Then analytical generalization is used to generalize the cases (Yin, 2009).
After analysis of the case company, its distributors and users were complete, to tackle the research question, data were displayed based on Dwyer et al.'s (1987) relationship development process, which is originally comprised of five phrases: awareness, exploration, expansion, commitment, and dissolution. However, for simplicity, we merged expansion and commitment phrases together. While expansion means “the continual in benefits obtained by exchange partners”, commitment is “an explicit or implicit pledge of relational continuity between exchange partners” (Dwyer et al., 1987). In addition, we also omitted dissolution phrase. Since we adopted an exploratory approach for this study, it is beneficial to consider on-going relationships between producer and distributors, and between distributors and end-users. Thus, the relationship development process used in this thesis has three phrases: (i) awareness, which is interaction between the two parties that “marks the beginning of the next phase of possible relationship development” (Dwyer et al., 1987); (ii) exploration, which includes attraction, communication and bargaining, contractual arrangement, and expectation development (Dwyer et al., 1987); and (iii) expansion - commitment, in which two parties become increasingly interdependent (Dwyer et al., 1987).

3.4. Validity and reliability

When it comes to quality of research, validity and reliability are considered. Validity refers to whether the measures accurately capture what they are expected to measure (Ghauri & Grønhaug, 2010; Saunders et al., 2009). On the other hand, reliability refers to “the extent to which data collection technique or techniques will yield consistent findings“(Saunders et al., 2009).

There are several ways to increase the validity and reliability of this thesis. For instance, triangulation was used. That is, different methods were used to collect data for this study. Apart from conducting interviews, which according to Yin (2009) are considered verbal reports only, we also collected secondary data through internal documents to have a more complete and thorough picture of the problem under scrutiny. Moreover, the multiple sources of evidence allow us to validate the collected data (Ghauri & Grønhaug, 2010). This advantage of triangulation is particularly useful in our case considering that we had to depend largely on data collected from interviews. For instance, we could check the information on encounter processes given by the case company through conducting interview its distributors.
With regards to reliability, a case study protocol was developed in order to improve reliability of the case study. This case study protocol was comprised of several parts as suggested by Yin (2009): introduction to the case study, data collection procedures, case study questions.

Attention was paid to the quality of conclusions. According to Miles & Huberman (1994), these following criteria should be taken into account: objectivity/confirmability, reliability, internal validity, external validity, and utilization/application. In particular, the investigator made use of the sets of questions suggested by Miles & Huberman (1994) to assess the quality of conclusions. For example, with respect to objectivity, this thesis’ general methods and procedures were described in details so that all information is available to readers.
4. CASE DESCRIPTION

4.1. The case company and its context:

The case company is a medium-sized manufacturer in Sweden. It is also a leading supplier of dishwashing machines in Scandinavia. The company was established in 1972. It now has a distribution network in Europe and Asia. This network comprises of partners who distribute, sell, and provide services to end-users. The company is a case in B2B2B market. It has strong relationship with distributors, and continuously works to build this into long-term relationship. On the other hand, there is not much interaction with user firms since the company does not sell their machines directly.

It is a technology-oriented company, which is traditionally influenced by new technologies (Brem & Voigt, 2009). Their products are mostly developed by their technicians who do not have direct contacts with end-users’ needs. Now the transition from a technology-pushed to a more market-driven approach is taking place within the sales and marketing department. From a broader perspective, it can be said that the case company is following an approach of integrating knowledge from market aspect and its current technology aspect. Together with this, to re-organize CRM is necessary. In their situation, one crucial requirement is that, while innovating with end-users through the re-organization of CRM, their distribution channels should be kept untouched, and even new benefits may be added to these channel partners.

4.2. Producer value creating processes

4.2.1. Producer value creating processes (review co-creation opportunities, planning, testing, and prototyping; implementing customer/user solution; managing customer encounters; assess value proposition)

CRM

The company has CRM, but not in structured way. Sales and marketing functions are combined in one unit. A sales manager works in sales, marketing and also product development. CRM external oriented programs can be seen in information sharing, customer integration, while CRM internal oriented programs do not receive much consideration in customer-oriented culture and knowledge management, as one respondent
said: "We don't have any general rules how to govern information". In addition, the case company has no CRM technology per se. As their Sales and Marketing Manager said: “It’s mainly on everyone’s PC, in the sales department’s laptop. Then we have some orders, a quote bank to see what kind of quote to send out. That’s pretty much what the CRM system we have today”. This is interesting in the sense that “… the focus of CRM should be on systems and procedures rather than on technology and software... Many of the most productive CRM systems in use today are... relying upon a combination of manual procedures, telephone and fax machines, and rudimentary information technology network” (Anderson et al., 2009). Finnegan & Currie (2010) have a similar view: “… CRM is too often implemented with a focus on a software package without an in-depth understanding of the issues of integrating culture, process, people and technology within and across organizational context.”

Their CRM system is the integration of activities across the company, from Sales and Marketing, R&D, services to production departments, with the crucial roles being of Sales and Marketing department.

**CRM external-oriented aspects**

These aspects are mainly transferred into CRM1 toward distributors, which are embedded in the encounter process of producer and distributors.

On the other hand, some aspects of CRM towards users are identified. According to our respondents, the company has their service department who provides service for users in Sweden and abroad. This department also has access to the control system of each machine via a web-tool. The control system allows the configuration of the machine regarding operation, heater, cost of energy, and cost of water. However, users do not have full access to the whole control system via webpage, especially calculation of cost of energy, water, unless they pay a fee. Moreover, not every user uses the web-tool, just some big users.

**CRM internal-oriented aspects**

**Organizational structure:**

“We have a flat organization. We are a small and flat organization; people know what other people are doing”. This helps CRM in the sense that sales persons can actively interact with other people in the company when necessary.
At the sales person level, to some extent they are granted the flexibility to work with customers. The decision to select the approach for different type of customers is made by the Sales and Marketing Manager and the Sales Manager responsible for that country. However, once the approach is determined, the Sales Manager can make their own decision when it comes to their task and sales interaction.

**Customer-oriented culture**

It is an integrated effort in the whole company. Although customer-oriented is not a common phrase used in the company, company members are trying to satisfy customer’s needs.

“They try to call us sometimes when they want to have a machine faster than we have sent. But we can provide and we try to fix this. We go directly down to production to see if it’s possible to push through another machine. We know it can be overtime work. But sometimes we do that to help out”

**Knowledge management:**

Information shared amongst sales team is made at regular meeting on Mondays, where information on product is discussed.

However, as the company is at the transition from technology-pushed company to more market-driven company, the flows of market information that is brought into the company’s boundary and blended with inside knowledge should need more consideration. Just as one respondent said: “It is more about interaction with people”.

Internal collaboration is initiated by Sales and Marketing department. Depending on the importance of the information, it can be sent to new product development teams for further discussion. This team meets every three or four weeks to exchange and discuss information from the markets, customers, services, changes. One sales manager said: “I get input from my dealers, we have large product meetings discussing new ideas. And the chief of construct department, he then takes it back to the engineers and we try to find time to solve and test this as fast as possible to see possible change to make it faster.”

**CRM and IP**
Its IP is more technology-pushed than market-driven. Ideas for the IP mostly come from in-house teams. “Ideas can be a new sales functionality or a new way of assembling the machine to make it faster, and in that case we also can lower the price. Or we have the same price but a better margin sometimes...So you can say that the whole company is helping out. We have a team of six persons who take in all the ideas from the factory and then they sit down and go through all different ideas, and discuss. Then they select some of them to try out”.

Also, there is a strong dependency on the experience of in-house production team, which to some extent, may lowers the importance of market intelligence.

We use the Innovation value chain introduced by Hansen & Birkinshaw (2007) to analyze the interconnection between CRM and IP. The three stages of this value chain include idea generation, idea conversion and idea diffusion. In the case company, CRM contributes to IP mainly in idea generation. There is no sign of CRM in idea conversion, and little contribution of CRM in idea diffusion. Specifically, in idea generation, the source of ideas is through interaction with customers and users during exhibitions, or from customers’ order and customer information sharing. There exists a lack of interaction with users. As a sales manager put it: “We must have information from end-users to understand what is going on”. One example is information sharing with customers that results in customer suggesting new product and niche market development. It is an idea to combine two machines together instead of using two machines as users are doing now. The new combined machine will reduce space and logistics costs: “He [the customer] called me and said: “...There is a domestic manufacturing factory. But they have a huge problem. It may be a gap in the market; maybe we should fill that gap”. I said “Ok, we can make it. Let’s see what it comes out”... We have all components. What we need to do is just to put it together. But to put it together, we need to of course make a synchronized control, a software. It can be a couple of hundred hours ... but it’s possible to do. So what I will do now, the next step is that, when I have agreed with my customers that it is what he wants, we put a price, then we try find to some customers (users)”. Another product manager talked about distributors’ involvement in new product development: “It depends from country to country. I have to say that Germany has involved much in the development of product, also because large competitors are from Germany. So we can get a lot of information... to see if we can have something better”. From these examples, it can be seen that a close relationship with customers (distributors) enhance idea generation of the producer through interaction. The first example
is also an example how producer and distributor collaborate to create value. Although information from customers sometimes is actually from end-users, the fact that customers may filter this information for their own purpose can affect the IP.

Although all respondents considered ideas from distributors as input for their product development, most of these ideas are not as original as those from in-house teams. “Mostly, they [the distributors] say that the competitor has this, we should have that also”.

Idea conversion is made within the case company without the participation of customers or users. Ideas are funded and developed within the company. One product manager said: “We have a special team of six persons who take in all the ideas from the factory and then they sit down and go through all the different ideas, and discuss. Then they select some of them to try out”.

However, in later stage, with CRM, the case company can find users to test the prototype by asking a distributor to look for one user that may be interested. One Sales Manager shared: “when we want to make a test with a new product, we phone the company, the manager of the company and discuss this. And if he has an end-customer to try-out new concept, new machines, then we just take away his old machine, putting in the new machine, for free of course, and let the customer test the new machine, new functionality”

4.2.2. Capabilities for CRM

Operational capabilities

Capability to filter ideas is based on experience. They “[filter the ideas we should follow from the ideas we should not based on] knowledge from what we have done before, what works and what does not work... Sometimes we bring it up one more time just to check it. It’s almost knowledge of the construction department what we have done before, the knowledge of the chief of construction department [R&D manager] who knows well about the products and also production”.

The capability to meet customer response is also important. Our respondents gave many examples how it is done. One product manager said: “They try to call us sometimes when they want to have a machine faster than we have sent it. But we can provide and we try to fix this. We go directly down to the production to see if it’s possible to push through another machine. We know it can be overtime work. But sometimes we do that to help out”. Thus, it
is not the sales team but other departments contribute so that customer’s requirement can be met as fast as possible. Another example: “... We made a new type of product. We sent pre-series machine to special (experienced) customers to test... They installed the machines in their canteen, they had a kitchen. During the process, the water was drifting down... After two circles, it was wet. What could we do? It was Friday; I called back home, Friday morning, and told “we need to change the software”. The software was controlled by an external engineer. So our people talked to him on Friday. On Monday, I had the new software, I sent to our customers on Tuesday morning and said: “Ok, test this one”.

Moreover, networking capability is required since the case company is working with lots of suppliers and other suppliers of the distributors. The Sales Manager of a distributor said: “They [the case company] know the factory we buy the cabinet from... and so on... so it’s compatible with their products. So when we are installing the facility, we know that everything is covered and we’re on the same page. So it’s not the relationship between us. It’s also the relationship with our or their suppliers, which is important to make a full installation”

**Dynamic capabilities**

On a more dynamic level, the case company shows their flexibility and capability in modifying or updating their routines to meet customer response. One sales manager responded to the question: “Sometimes I go directly to the engineer and discuss some solutions. That’s the way of speeding up. And if I find out a thing that is causing too much problem for the dealers, I will go directly to the engineer who is responsible for a special kind of machine and discuss with him. And then maybe he discusses it first with his chief of construct and then we decide this must be changed very fast. In that way, we are very flexible.

Or they adapt to the situation to facilitate product development: “That is more that we adapt to the situation that we have. For instance, if it’s specific machine that we don’t produce often, we have to adapt to the situation. Ok, we can do some test in-house but we need to do some test oversea and then you have to find customers. Then they may not be in the neighborhood, they could also be a bit far away. And that we have to adapt to the process itself to do the follow up and so on”.
4.3. Producer - distributor encounter processes (‘processes and practices of interaction and exchange’ (Payne et al., 2008) between distributor/business customer and producer).

Interaction between producer and distributor is based on B2B relationship (see Table 3). According to one distributor’s Sales Manager, encounter processes are made with respect to two aspects:

“I) On the marketing side where they [the case company] have one person responding for us as a customer, and they will handle all commercial issue, and 2) On technical side: we have direct contact [with the case company] because when we make a quite complex installation, we have different kinds of robot handling. It requires very careful coordination. On that level we need to have close collaboration with technical side within [the case company] to have the machine to our specification. That is on daily basis that we have the contacts. I have a lot of contacts with Senior but I also have contact with their marketing manager and managing director because they are a very important supplier to us”.

Thus, encounter processes are made based on communication and services encounters. From producer’s side, they provide product training for sales people, technical training for engineers of distributors. They also organize distributor annual meeting, half annual meeting to discuss market and product information. In these meeting, distributors can meeting and exchange information and experience. Additionally, interaction can take place when the sales persons visit and discuss with the distributors.

“We have hundreds of sales men and service technicians who are operating with the customers daily. Then sometimes we have R&D ideas meetings together with [the case company] and its Marketing Manager for example, and then some sales persons from our different countries. And then we go through what kind of demand that would be for the market and a lot of products and so on, and the product offerings”.

For close and long-term distributors, interaction is made on a more frequent basis, which can be 2-3 times a year and can be initiated by distributors: “We have the meetings with [the case company] at least 2 or 3 times a year. We go through the thing that is the feedback from our customers on our product and our machine. And we see area on the improvement etc. That is something we do on the regular basis with them”.

Interviews with both producer (the case company) and its distributors reveal potential improvements:
“It would be good if they would come out and see after their machines are being used for some times. Then they can see the weakness of their machine. To come out to see how it looks after they are being used after 2 or 3 years. That will be a good thing.

Sometimes, there is a lack support from them. It is not from their own machines. That is to have good knowledge of their competitor's machines so that we get better support on what is the strength and weakness of our competitors.”

Or:

“The other thing could be to support with more complete solution for dishwashing. So the thing I think about the total solutions, not only dishwashing but all equipments we try to connect with their machines like the total handling of the dishes, dirty and clean. That kind of planning and solution that they could give to the customers more. That how the competitors are doing is one of their development areas”.

4.4. Distributor value creating processes (“processes, resources and practice” (Payne et al., 2008) distributor uses to manage its business and relationships with users and producer. These processes include reviewing co-creation opportunities [with users and producer]; planning, testing and prototyping value co-creation opportunities; implementing customer solutions; managing customer encounters, assess value propositions (Payne et al., 2008)).

Distributors use web tool control system to do preventive services. The control system is used by distributors’ technicians to make any changes regarding the setting of the dishwashing machines. In this way, they can check the condition of the machine, analyze its operation and take appropriate actions.

“2-3 times a year normally that the service technician is on site to make sure that everything is going on correctly and then we read the report from the machine, and it helps some navigation points. If the value is higher than this, they are using it wrong or it indicates that they need new training”.

Once receiving ideas or suggestions from the market, distributors filter these ideas based on their experience and internal discussions:
“[We select good ideas] based on experience and discussion with technicians and other sales, experienced people from this branch, what is the advantage and disadvantaged when doing such and such, and measure if it’s a good idea or bad. But it’s very rare that we get the idea, most people have an idea of the dishwashing just needing the dishes clean, and also as cheap cost as possible. So actually I can’t recall anyone as we speak at the moment. And that always we give the ideas directly to them [the case company] we don’t keep them for us”.

Similarly as in the case company, ideas that are worth pursuing often seem to be coming from internal teams of distributors.

“Most ideas come from our own technicians and sales persons”.

“What we can seize from the customers is how you should develop your product compared to other products on the market. So that kind of information you can get from the customers. But then you need totally new ideas and new approaches to some dish washing problems that do not directly come from customers [users].”

**CRM systems of distributors**

Unlike the case company, most of the distributors have been using a CRM system. As one of them shared:

“We have CRM system. The reason is that we have a lot of contacts. It manages small business transactions. It is also the way to make sure that if we have made commitment. Sometimes they [the users] come back or they change in management and suddenly someone new comes, we can easily go back and check what we have done, what corresponds with previous person in charge and what proposal we have made. It is very helpful in that respect”.

Thus, the two aspects of CRM that have been utilized by distributors are (i) operational CRM, which deals with supporting sales and customer service team with respect to customer’s history and data (Walhberg et al., 2009); and (ii) collaborative CRM is the interaction with users through personal contact or telephone, (e) mail, SMS, and website (Gummesson, 2008; Walhberg et al., 2009). Analytical CRM has not been made use of.

“We keep all our customers’ database in good condition. And we have this kind of system where we collect all customers’ claims and then they are reported into a database and then
we can choose responsible person and we can have a look what kind of customer claim are there, what kind of product and problem. But then we don’t have any kind of CRM system that we collect development needs”.

4.5. Distributor-user encounter processes (“processes and practices of interaction and exchange” (Payne et al., 2008) between distributor/business customer and user)

Distributor and user firms often meet to discuss requirements. User firms do not come directly to producer.

“On the average, we normally are in big project, have close contact with both users and consultants for average 3 years before the projects happen. It means close collaboration. We are able to implement the specification and how the whole dishwashing system is setup, which consequently gives us a big benefit when the actual sale is made because it is difficult for the other competitors to offer the same solution as we can do. Generally speaking, we have the close contact. We have a lot of meetings with end users before the documents come out and before we actually make a quotation”.

With more experienced users, they take part in developing the solutions for themselves.

“At least they involve in they are long dialogue on what they requires how they want to operate. It is very much when we have that understanding and we make proposal to the customer and how it should be done etc. That can be solution at least not fully tested before. Even everything is not new. A lot of development is done together with the customer. Once we get the understanding with the customer what they are looking for, we try to find the solution and present to them. They can accept or they want us to change a bit. It is always a close dialog with the customers”.

On the other hand, distributors also meet with users on the basis of service encounter. Distributors come to users’ premises and provide services, for example, installation, maintenance.

“We have assembly engineers involved when we do actual installations. We also have some kinds of service contract afterward so that we have a follow up after several years of the installations… We can see what equipment looks like after being use 1 year, 2 years 3 years.
It is not like once we made the installations, we just leave the country. We normally come back 2 or 3 times at least every year to make service on the installation”.

Web-based control system of the machine also acts as a relationship technology here. It allows information exchange between distributors and users.

“We have the system that we are repairing all the service. When we do the maintenance work or repair the machine, we put in database so that the customers can get reports that how much money he is spending on repairing a certain machine and how many times the machine has been repaired. It can also analyze if it makes sense to repair the machine again and again”.

4.6. User value creating processes (include procedures, tasks, mechanisms, and activities that users use to manage their business and relationships with distributor or can be described as “a series of activities performed by customer to achieve a particular goal” (Payne et al., 2008)

Users review offerings from distributors, then give them their feedback.

Users use web tool control system to generate hygiene reports, cost reports. For temperature and operation, they seldom uses web-based tool since they are not much interested in this functionalities (as mentioned by both producer and distributors), and they also need to pay for it in order to use it.

From the interviews with distributors, there is not much evidence that users take an active part in developing the products or solutions. However, some distributors reveal that “more experienced” users may have better ideas for them to pursue.
### Relationship stage (Based on Dwyer et al., 1987)

<table>
<thead>
<tr>
<th>Processes (based on Payne et al., 2008)</th>
<th>Relationship stage</th>
<th>Expansion and commitment:</th>
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<td>Awareness</td>
<td>Exploration</td>
<td>Customer encounters are not managed as shared in a structured way: &quot;We don’t have any general rules how to govern information...&quot;</td>
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<tr>
<td>Producer value creating process</td>
<td>Selection of distributors</td>
<td>Producer reviews co-creation opportunities: evaluate cost-benefit, formal product meetings to discuss product and offer issues</td>
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<tr>
<td>Producer - distributor encounter process:</td>
<td>Setting goals for markets, Preparing for exhibitions, tradeshows</td>
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<td></td>
<td>Distributors search for producer by sending emails to producer</td>
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<td></td>
<td>Producer and distributors meet at trade fair and exhibition (but it can also be something more) *</td>
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<td></td>
<td>Producer provides product training for sales people, technical training for engineers of distributors</td>
<td>[Producers]”phones the customer and ask the manager if he has a user to try out the new concept or new product...”</td>
</tr>
<tr>
<td></td>
<td>Producer makes offer to distributors, distributor gives feedback and requirements</td>
<td>Distributor filter then communicates market information and market opportunities with users</td>
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<td></td>
<td>Producer's visits to distributors 3 times a year, if it is possible for them</td>
<td>Producer normally involves in the buying process of users in terms of quotation, and discussion and specifications</td>
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<td></td>
<td>Producer organizes export annual meetings so that distributors also can meet with each other</td>
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<td>Distributor value creating process</td>
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<td>Distributor and user firm meet to discuss requirement, Users give feedback to distributors</td>
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<td>Users review value offerings</td>
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<td>Notes: * also applied to users</td>
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<tr>
<td>Italic text: aspects of CRM that can be re-organized or improved so that the processes in each relationship stage can match</td>
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5. ANALYSIS


The former B2B relationship (between producer and distributor) is bilateral relationship, in which both producer and distributors are highly motivated to invest in the relationship (Egan, 2008). This relationship is based on trust and commitment. One Managing Director of a distributor said:

“The communication [with the case company] helps me to explain and understand the process of the offerings that we are offering at the moment. So I’m confident that what I am offering and telling the client is absolutely understandable and reliable. And we know it will work as we have described. And we have them [the case company] as a partner to discuss this with and we can ask them and they can have an answer to help us out”.

In addition, if the producer and distributor have long-term relationship and the distributor is experienced and knowledgeable about the process, the producer’s time for filtering ideas and evaluating requirements from the distributor can be reduced.

The latter B2B relationship (between distributor and user firm) can be seller-maintained relationship (in which sellers (distributors) are highly motivated while buyers (users) are low motivated to invest in the relationship (Egan, 2008)). The difference is determined by what kind of offer is given to the user firm. Normally, the actual users of the machine are not involved in the buying process.

The whole B2B2B: This is a weak link since the case company does not own direct contact with users. And the fact that their product is of low importance to users also contributes to this.

5.2. Organizing CRM to innovate with users

Proposition 1: Organizing CRM of the producer should start with organizing CRM toward distributors.

Innovation management includes fundamental research, technology development, pre-development activities, product and process-development, product and market introduction (Specht, 2002 as cited in Brem & Voigt, 2009). In this case, the distributors act to introduce
the case company’s products to user firms, and also bring the market aspect, from their view, to the case company. It is not feasible for the case company to get into direct interaction with user firms for some reasons. It requires a different capability to work and interact with user firms. Now the core competence of the case company is to develop good standard machines and maintain relationship with distributors. One distributor shared: “Their [the case company’s] philosophy is to focus primarily on the machines and to develop them. I think it’s good. I think it is difficult for both to have their role like us who are developing, handling the system. It is difficult for them to combine that with their own developing area. Because they want to focus on the development of good standard machine with things they can use again and again.”

Moreover, it requires a different approach to manage, select, and analyze user information flow, which is rich and diversified. For example, while the case company now does not employ CRM technology, most of its distributors use CRM technology, at least to manage their transactions with users, manage users’ database. Moreover, considering the resources that the case company possesses, to get into direct contact with users seems to be problematic, which is also the reason why they do not choose direct selling.

**Proposition 2:** The participation of producer (the first B in B2B2B) together with distributors will positively affect the potential efficiency of the whole B2B2B CRM.

To interact and innovate with users, producer’s involvement in developing the offering to end-users together with distributors will be helpful (i) to identify potential user-innovators, and (ii) to select the type of interaction to innovate with them. These are also two important dimensions that should be taken into consideration when a firm seeks to innovate with its users (Lettl, 2007).

The involvement of producer will help to identify the “right” users to collaborate, which in turn can act to reduce negative impact of user involvement (Enkel et al., 2005).

**Proposition 3:** Organizing CRM is made through CRM external-oriented aspects of both producer (the case company) - distributor CRM (i.e., denoted as B2B -CRM) and distributor – user CRM (i.e., -B2B CRM).
The interconnection between Customer Relationship Management of the case company and the distributors is demonstrated through CRM external-oriented aspects of both producer (the case company) - distributor CRM (i.e., denoted as B2B-CRM) and distributor – user CRM (i.e., denoted as –B2BCRM).


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<td>Distributors share information on market</td>
<td>Users share information on market, competitors</td>
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<td>Producer and distributors work closely to develop solution for users</td>
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<td>Long-term partnership</td>
<td>Producer and distributors develop long-term partnership</td>
<td>-</td>
<td>Embedded in value creating process and interaction</td>
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<td>Producer and distributors work closely to develop solution for users</td>
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<td>CRM perspective(s)</td>
<td>• Collaborative CRM (focusing on interaction)</td>
<td>• Collaborative CRM (focusing on interaction) • Operational CRM (customer’s history and data)</td>
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**Table 4: Customer Relationship Management of the case company and the distributors**

The fitness between CRM of producer towards distributors (B2B-) and CRM of distributors towards users (-B2B) will enhance the CRM of producers towards users (B2B2B). This will show opportunities that manufacturers can grasp to co-create value with distributors and users. For example, the producer is welcome to join the distributor when this distributor is coming to a specific user’s premise to provide maintaining services (-B2B) after its user has used the machine for a while. In doing so, the producer has an opportunity to interact with users. Moreover, this matching could be made with regards to external-oriented CRM, which includes information sharing, customer involvement, long-term partnership, joint problem solving, and technology-based CRM (Lin et al., 2010).
One finding emerging from data analysis process is the potential that the control system of the machines can act as a user interface and enables case company to get closer to users. In comparison with user innovation toolkit, this control system is not a user innovation toolkit since it allows the customization of the product (i.e., users can change operating parameters of the machines), but not the diffusion of their innovation. Rather, it is a relationship technology, which includes:

- **User preference:** Normally users use the control system on the machine to adjust the operation of the machine. Using it to generate hygiene reports, cost reports shows how users adjust the products, and what they need the producer to develop more. They can “channel demand from end-user to providers, encourage them to develop innovative products in response” as Kortuem and Kawsar (2010) describe the ecosystem of Smart-homes technology.

- **User contact:** it shows user contact history of service staff (Egan, 2008)

- **Information for service:** trained technicians of producer and distributors (more frequently) log in the web-tool to check and plan for preventive service, for example, changing some old components.

This control system can be considered as CRM “hardware” and can be promoted by both producer and distributors since there is no conflict in their using it.

- **For producer:** by releasing the control system for free, they can have at least user preference and input for innovation process.

- **For distributors:** they can use the control system as a relationship technology as described above.

**Proposition 4:** A bottom-up CRM approach is more preferable than a top-down approach CRM when applied to B2B2B.

With regard to CRM internal aspects, still a bottom-up CRM approach may be more effective than a top-down approach in B2B2B CRM since it is efficient in complex selling context and allows the flexibility of sales force and adaptive selling (Ahearne et al., 2012) to each distributor, and thus, user. A bottom-up approach depends on different levels upward
in the hierarchy to make decisions, while top-down CRM depends on management levels to
determine actions (Ahearne et al., 2012) (see Table 5 for a comparison between bottom-up
and top-down CRM).

<table>
<thead>
<tr>
<th>Bottom-up CRM</th>
<th>Top-down CRM</th>
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| **Advantages** | • Receives strong support from top management  
                 • Allows holistic view of customers (Finnegan & Currie, 2010) |
| • Incorporates customer strategy planning from sales force, critical decision making, systems improvements, and customer need knowledge  
  • Allows flexibility of sales persons | |
| **Disadvantages** | • Is not suitable for complex selling context  
                        • Does not consider input and feedback of sales force  
                        • May hinder sales persons’ abilities |
| • May result in a mix of elements and views due to local optimization | |
| **Where applicable?** | • Complex and uncertain selling contexts  
                        • Simple selling contexts (B2C) |

*Table 5: Characteristic of bottom-up and top-down CRM approach (Ahearne et al., 2012)*

Consider the case company. They have those characteristics of a bottom-up CRM approach: adaptive selling for each customer in each market, flexibility granted to sales persons to some extent. Ahearne et al. (2012) argue that the bottom-up approach will be applied if sales people have low level of technical skills. However, this approach is still efficient to the case company although their sales people possess a higher level of technical skills, i.e., they are sales people but at the same time they participate in product development.

Besides, with CRM being organized, it requires customer/user orientation (Day, 2002) and the integration of user information that is brought to the producer through distributors, which again corresponds to the bottom-up approach.

In addition, they have a flat organizational structure, which makes interaction and exchange within the company possible, thus allows flexibility of sales persons and facilitates bottom-up approach.
**Proposition 5**: *A hybrid approach in knowledge management is more preferable when applied to B2B2B.*

With regards to knowledge, Nonaka (1994) differentiates between two types of knowledge: explicit and tacit knowledge. While explicit knowledge can be easily codified and shared among people, tacit knowledge embraces individual’s experience and know-how (Nonoka, 1994; Rollinson, 2005).

The case company represents a situation where firm CRM performance relies on knowledge that resides in their staff’s mind, not on formal documents or procedures. This fact has allowed the case company to efficiently and smoothly run their business and manage their relationship with distributors (their customers). The conditions that integrate staffs into CRM activities include the bottom-up CRM approach that has been adopted, the flat organizational structure, and the level of tacit knowledge of staff. However, they may face a risk when the person who possesses crucial tacit knowledge retires or leaves the company. This raises the problem of capturing explicit and tacit knowledge. In order to be faster and more efficiently in knowledge management, a hybrid approach which has both explicit and tacit knowledge management practices should be followed (Sanchez, 2004).

**Summary**

The purpose of this thesis is to contribute to the understanding on innovation with users as a result of interaction and co-creation, by proposing a framework for innovating with users through B2B2B CRM. Empirical findings show that our proposed framework can be applied to manage the interaction between these firms.

Also, organizing CRM of producer should start with external-oriented aspects, then internal-oriented aspects in order to innovate with users.
6. CONCLUSION AND IMPLICATIONS

6.1. Limitations and future directions

Several limitations of this thesis can be noted. First of all, this thesis has empirical limitations. Employing case study method, the thesis’ generalization is weak. Since case study examines the event under its contemporary setting (Yin, 2009), it is not recommended to generalized the findings out of that setting. However, one can argue that it is the description and themes from natural settings that contributes to the value of qualitative research (Creswell, 2009).

Secondly, in this thesis, we adopt the CRM definition of Boulding et al. (2005), in which CRM not only builds relationship, collects and analyzes data, but it also “includes the integration of all these activities across the firm” (see 2.1.1). However, data collection within the case company was mainly made with Sales and Marketing department and with R&D Manager. It would be beneficial to also conduct interview other departments such as Service Department, Production Department to have a full picture of how CRM is integrated in all activities across the firm. It would also be relevant to interview the Managing Director, who is knowledgeable and has an overview of the organization.

Thirdly, it would reveal further insight to interview users of each distributor. This would allow rich data to understand more user firms, thus, the whole B2B2B CRM.

There is a need for more investigation on how CRM can influence the IP, not only how to interact and innovate with users but also how to engage users to the right phrases of IP. Another area that could need more study is an ultimate CRM- innovation model, which is intended for both producer and customers. This CRM-innovation model is contributed to the innovation of the firm through its interrelation with CRM. However, it is a more long-term than CRM initiatives, and does not interfere with daily activities of producer.

6.2. Conclusions

- Built on Payne et al. (2008) and the approach of Andreu et al. (2010), the proposed framework shows how to innovate with users through organizing CRM. It shows how to utilize CRM mechanisms to reach to users and transfer innovation from user’s domain into firm’s process, or co-create with them.
- As little has known in the literature about B2B2B CRM of firms that do not own direct interaction with users, this thesis considers a firm in B2B2B market. It also shows that interaction, though being not direct, is possible for this kind of firm. Its distributors will act as the bridge between producer and users, connect technology with market intelligence.

- With regards to CRM, this thesis adds to CRM literature in terms of how to operate CRM system, i.e., CRM internal-oriented aspects, which have not received much attention from the research community so far (Lin et al., 2010). For example, it examines CRM from internal aspects such as organizational structure, knowledge management, or what conditions are necessary to integrate people into the process of CRM activities (Boulding et al. 2005). Moreover, it gives a discussion of operational and dynamic capability for CRM. This is also considered under the lens of organizing CRM system.

### 6.3. Implications

The proposed framework for innovating with users through B2B2B CRM contributes to the understanding on innovation with users as a result of interaction and co-creation.

With the increasing importance of users and user innovation, in practice, the proposed framework is also important to firms in B2B2B markets that lack direct interaction with users.

- Managers should need not only to pay attention to customers and users as sources of innovation, but also set up a system of CRM to manage and engage customers and users into the IP. This CRM system should be integrated into the firms’ activities.

- The process of fitting the CRM of producer towards distributors with CRM of distributors towards users reveal opportunities for improving interaction processes between those parties, opportunities for value creating, and even innovation. In this process of fitting CRM, firms can motivate distributors, for example, by enhancing information exchange.
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## Appendix A: Data collection planning

<table>
<thead>
<tr>
<th>Technique</th>
<th>Producer</th>
<th>Distributors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Interviews/Telephone interviews</td>
<td>Telephone interviews</td>
</tr>
<tr>
<td>Criteria to select respondents</td>
<td>+ Have a key position in sales and marketing (so as to be knowledgeable about CRM and customers, distributors), or + Be well informed about the process of new product development, research and development</td>
<td><strong>To select distributors:</strong> + Have a close relationship/frequent interaction with producer or + Be one important distributor with regard to sales volume/revenue <strong>To select respondents:</strong> + Have a key position in sales and marketing (so as to be knowledgeable about CRM and users), and/or + Be well informed and experienced in interaction and collaboration with producer</td>
</tr>
<tr>
<td>Number of respondents</td>
<td>4 respondents</td>
<td>3 distributors</td>
</tr>
<tr>
<td>Purpose</td>
<td>+ To understand the value creating processes of producer and its encounter process with distributors + To identify necessary capabilities producer must possess</td>
<td>+ To understand the value creating processes of distributors and their encounter processes with producers and users, and parts of user value creating processes</td>
</tr>
</tbody>
</table>
Appendix B: Interview guide 1 (producer)

A. Producer – distributor encounter process
(CRM External aspects)
1. What kind of service support do you provide to customers during their buying process and redistribution? How does this support relate to your CRM initiatives and IP?
2. Information sharing: what kind of information do you share with customers or do they share with you?
3. Customer integration: Are customers involved in your product development or product modification, and what activities are they involved in?
4. Joint-problem solving: Do your customers work with you to overcome difficulties, eg, in delivery time, logistics management, and how?
5. Long-term partnership: How important is long-term development and successes with customers?
6. Who in customers’ companies do you need to interact with before they decide to buy?

B. Producer value creating process
7. Please describe your innovation process. How important are distributors to your innovation process or NPD? Should they be involved more?
8. How important are users to your innovation process or NPD? How far are they involved in the IP/NPD?
9. Please describe how you would scan the market to identify opportunities to create value with customers? with users?
10. What kind of rewards is given to distributors and users for their contribution?

C. CRM Internal aspects
11. How are you organizing your organizational structure to support bi-directional interactions with customers?
12. Hierarchy (Ahearne et al., 2012) and internal CRM: How does your company integrate all of the customer information? Who builds the sales plan for the sales manager (how, when)? Is it modified during the year, under what circumstances, by whom? How far are you granted the flexibility to work with customers?
13. Internal collaboration (Rodriguez & Honeycutt, 2011): How are you collaborating with your colleagues in other departments to meet customers’ needs? Do you share customers’ information and needs with others in the company?

14. What capabilities and skills are needed in order to efficiently manage relationships with customers? from the organization, units, individual perspectives?

15. Has the way of collaborating with other colleagues within your department and with other departments been modified before? When? Why? Who initiates?
Appendix C: Interview guide 2 (distributors)

A. General questions: (5)
   1. Please tell me about your company, product and market. Who are your customers?
   2. Please tell me about your relationship with [the case company]. What factors influence you to choose to cooperate with [the case company]?

B. Producer – distributor encounter process (5)
   3. Please describe how the interactions with [the case company] can assist you to satisfy your customers? What kind of communication do you have with [the case company]? What kind of service encounter?

C. Distributor-user encounter process (15)
   4. What kind of interaction do you have with users during their buying process? During their usage of the product?
   5. What are the important criteria when you work with your customers?
   6. Are the customers involved in your NPD and service development? How far are they involved in the IP/NPD? Should they be involved more?
   7. Do you use any kind of customer relationship management technology?

D. Distributor value creating processes (5)
   8. How would you filter the suggestions from customers? Who are often these customers? Then what would you do?
   9. Could you please recommend one user for interview?