

## MASTER

### Prioritizing CRM related efforts to construct an efficient CRM strategy

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# **Prioritizing CRM related efforts to construct an efficient CRM strategy**

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in partial fulfillment of the requirements of the degree of

**Master of Science  
in Innovation Management**

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## **Preface**

This paper follows from my finalizing project towards graduating in the Master of Innovation Management. The research project was conducted for VisitU, and was supervised by the TU/e ITEM group. The paper explores the relevance of different CRM efforts and provides a guide towards phasing CRM investments.

I would like to express my gratitude to responsible within both VisitU and the ITEM group. Néomie Raassens, my first supervisor, for her assistance, guidance, and critical feedback. Sjoerd Romme, my second supervisor, for connecting me with VisitU and providing me with feedback for paper finalization. Additionally, I would like to thank Stefan van Rooijen, supervisor and CEO at VisitU, for providing me with the possibility to conduct this study, pointing me towards interesting candidates for interviews, and providing me with the versatile experience of a startup.

## Management summary

When new products or services are implemented into a market, they should offer added value compared to incumbents as part of a successful competitive strategy (Ravald & Grönroos, 1996). Customer relationships is recognized as an important player in safeguarding these values (Osterwalder & Pigneur, 2010; Ravald & Grönroos, 1996). These customer relationships are managed under the name of customer relationship management (CRM). According to Osterwalder & Pigneur (2010), CRM increases three main outcomes: customer acquisition, customer retention, and up-selling/cross-selling. However, articles do, although mentioning customer relationships and their importance, not go deeper into the underlying concept of CRM (e.g., Osterwalder & Pigneur, 2010). How does a company have to manage its customer relations to increase the probability that customers buy its products, stay with the firm, and buy additional products or more expensive packages?

VisitU has now reached the stage where its product enters the market. In order to increase their customer acquisition, retention, and up-selling/cross-selling rates, VisitU believes in the importance of well managed customer relations. As a fresh startup, knowledge and insights into how to manage their customer relations is lacking at VisitU. Focusing on all CRM effort types requires too many resources. Therefore, it is desired to gain further insights in the relative importance of each CRM effort in order to prioritize certain efforts. These insights then assist in constructing an effective strategy for applying CRM in B2B startups in general. While keeping investments in CRM to a minimum, customer relations can be managed effectively leading to increased customer acquisition, customer retention, and up-selling/cross-selling rates. The present study explores the importance of each CRM effort to answer the following research question:

*“How should VisitU construct its customer relationship management to optimize customer acquisition, customer retention, and up-selling/cross-selling rates?”*

### *Literature review*

A literature review was conducted to identify and list all CRM related efforts. Literature has shown that customer relationship management has a large impact on customer acquisition, retention, and up-selling/cross-selling. By analyzing CRM processes and the antecedents of the three desired outcomes, twelve directly influencing CRM efforts were found to be relevant for further research: ‘customer involvement’, ‘customer support’, ‘experience stability’, ‘service recovery’, ‘interaction frequency’, ‘improved pricing’, ‘personalized marketing’, ‘customized products/services’, ‘personal relationship’, ‘information flow’, ‘marketing actions’, and ‘customer targeting’. Furthermore, three indirectly influencing CRM efforts were identified: ‘customer knowledge’, ‘CRM technology’, and ‘channel type’.

### *Research methodology*

To conduct empirical research, the research scope is reduced towards directly influencing CRM efforts. Only these efforts are included as a subject in the interview structure, while indirect efforts are sometimes included as side questions. The role of the indirect CRM efforts remains to be taken

into account, but merely through their effect on direct CRM efforts, assuming these indirect efforts are fully mediated by certain direct efforts.

This study is considered an explorative one as it aims at the discovery of properties of CRM efforts and developing a theory around it, for which a qualitative research method is considered most applicable (Flick, 2009; van Aken, Berends, & van der Bij, 2012). To collect data, 11 semi-structured interviews were conducted as these are highly useful for exploration of respondents' perceptions, while following a standardized plan (Louise barriball & While, 1994). Then, to analyze the collected data, a template analysis approach was followed, as this enables the definition of a priori themes that relate to theoretical concepts (Brooks & King, 2012), which were identified during the literature review. The data is then analyzed for patterns to identify dissatisfiers and satisfiers.

### *Results*

During empirical research, interviews were conducted to determine the separate importance of each CRM effort. Based on this importance, the efforts are assigned a priority level.

Although the data, collected through interviews, generally identifies the same effects of indirect efforts and effects of CRM efforts on the desired outcomes, some findings differ from the available literature. Also, analysis of the data led to the categorization of each CRM effort as a dissatisfier, satisfier, or irrelevant effort. Following the opinions and experiences of interviewees, efforts are categorized and prioritized. Seven dissatisfiers are identified: experience stability, customer support, interaction, service recovery, customized service, improved pricing, and information flow. Also, four satisfiers are identified: customer involvement, customized product, personal relationships, and customer targeting.

### *Conclusions*

Following the empirical research and the corresponding results as displayed in Figure A, managerial implications are determined to improve applicability of the developed theory.

In the early phases of a startup, or when development of a CRM strategy for any healthcare related supplier is initiated, the supplier's initial CRM strategy should focus on CRM efforts which are identified as dissatisfiers. These are categorized in three constructs: customer's experience, customization of features surrounding a product, and the information flow. These focus points prevent the deterioration of acquisition, retention, and up-selling/cross-selling. To ensure the customer's experience, suppliers should make sure that a product is developed far enough to guarantee high stability of the product before entering the market, and that service options are not offered if they cannot be honored (experience stability). Also, to assure the customer's experience, the supplier should notify the customer of the possibility to receive assistance in implementing a product and to call a helpdesk at all time prior to negotiating contracts (customer support). To evaluate the customer's experience, it is advised to schedule periodic, physical meetings every 3, 6, or 12 months, depending on the demands of the customer (interaction). To restore the customer's experience, the supplier should secure in contracts that resolutions to major malfunctions are offered within 24 hours and that minor malfunctions are resolved within foreseeable time, such as 5 working days (service recovery). To customize the surrounding features of a product, interviewees



express that meeting face-to-face is advisable to inform customers of the options in customizing their service, as well as investing in a digital platform to let customers easily schedule their deliveries, meetings, and repairs (customized service). Also, specialized technology should be used to calculate where reductions can be given, and clear information should be provided during negotiations about which options lead to price reduction, such as quantity discount or exclusion of service options (improved pricing). To assure a decent information flow, the supplier is advised to assign a fixed contact person for each customer and/or to invest in a digital platform to provide relevant and unambiguous information to the right responsible within the customer's institutions (information flow).

In more advanced phases of a startup, or when application of the CRM strategy for any healthcare related supplier is extended, the supplier's CRM strategy should be extended towards the CRM efforts which turned out to be satisfiers. These are categorized in three constructs: improving product's value, growing personal networks, and improving targeting of potential customers. These focus points increase the acquisition, retention, and up-selling/cross-selling rates. To increase the customer's product values, the supplier should attract customers to get involved with product development, for instance by letting the customers keep the product afterwards and by informing them about future costs (customer involvement). Also, to increase a customer's product values, the supplier should use face-to-face meetings during negotiations to gain intelligence regarding specific product demands and invest in customizable technology to easily adjust products towards customer demands (customized product). However, suppliers should be careful when offering product customization as it is explained not to be interesting in general occasions and could have an adverse effect. Furthermore, to build personal networks, the supplier is advised to attend exhibitions, and to use relationships with existing customers and colleagues in the healthcare sector to gain more access to potential customers (personal relationships). Finally, to improve the targeting of potential customers, a supplier should setup meetings with different institution types and be present at exhibitions to determine which kind of institutions show high potential and offer extra features, such as discounts or free additional services, to sign high potential targets (customer targeting).

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# 1. Introduction

In this section the current study is introduced. First, the addressed literature gap is discussed (1.1). The research is then described (1.2), followed by the problem statement of this study (1.3). Thereafter, the relevance of the study is examined (1.4) and the structure throughout the study is provided (1.5).

## 1.1 Literature gap

When new products or services are designed to launch into a market, they should offer added value compared to incumbent products or services as part of a successful competitive strategy (Ravald & Grönroos, 1996). The promises that an offering adds value to the customer's experience are described in value propositions (Grönroos & Voima, 2013). These value propositions can be brought to customer segments through customer relationships (Osterwalder & Pigneur, 2010; Ravald & Grönroos, 1996). These customer relationships are managed under the name of customer relationship management (CRM).

According to Osterwalder and Pigneur (2010), customer relationships and the along coming CRM can serve towards three outcomes. First, customer acquisition should be improved by CRM, where customer acquisition is about acquiring customers that are either new or have left previously, and buy a product or service for the first time (again) (Gupta & Zeithaml, 2006; Thomas, Blattberg, & Fox, 2004). Second, customer retention should be improved by CRM. Ranaweera & Prabhu (2003, p. 376) provide the following definition on customer retention: "the future propensity of a customer to stay with their service provider." Third, CRM should boost sales through up-selling/cross-selling. Aydin and Ziya (2008) describe up-selling as a proposal by the seller to purchase additional corresponding goods or services during an initial purchase decision. This can for instance be an extended product with more possibilities. On the other hand, Kamakura et al. (2003) describe cross-selling as a firm's strategy to sell other (complementary) products to customers who already purchased a product from the firm. These three desired outcomes increase economic performance (e.g., Reinartz, Krafft & Hoyer, 2004; Richards & Jones, 2008). Articles do, although mentioning customer relationships and their importance, not go deeper into the underlying concept of CRM (e.g., Osterwalder & Pigneur, 2010). How does a company have to manage its customer relations to increase the probability that customers buy its products, stay with the firm, and buy additional products or more expensive packages?

The need to answer this question follows from the fact that many authors emphasize the importance of CRM and mention the desired outcomes (e.g., Payne & Frow, 2005; Reinartz et al., 2004; Richards & Jones, 2008). However, literature to provide an overview of which CRM related efforts do actually positively affect the three desired outcomes is scarce. Reinartz et al. (2004) find that implementation of CRM has effect on performance in the initiation stage (including customer acquisition) and maintenance stage (including customer retention and up-selling/cross-selling). Yet, the authors do only hypothesize about the importance of CRM technology and organizational alignment towards CRM (Reinartz et al., 2004). Richards and Jones (2008) analyze the available literature on CRM to measure its effect on performance through customer equity, sometimes including customer

acquisition, customer retention, and up-selling/cross-selling. However, due to the different focus, this article does only partially answer the question. Furthermore, merely creating an overview of CRM related efforts does not fully answer the question of how a firm should construct its customer relationship management. A firm requires insights into the importance of each CRM effort, allowing it to assign priorities to certain efforts while investments in other CRM efforts can be postponed. Those articles that identify the effect of including or excluding certain CRM efforts are in short supply (e.g., Payne & Frow, 2004). This study is dedicated to close this literature gap. By determining which of the CRM related efforts require the highest relative priority, a strategy can be designed to effectively manage customer relations.

## **1.2 Research context**

This research is conducted for use by VisitU, a startup in an early phase of existence. The startup is founded in 2015 by Stefan van Rooijen, a PhD student working at Maxima Medisch Centrum in Veldhoven. At this moment, it largely depends on free effort by family members. However, attempts are made to professionalize. VisitU aims at bringing Virtual Reality into the healthcare sector by offering virtual reality live streaming to patients. This allows patients to feel closer to their own environment. The application is expected to improve patients' well-being both mentally and physically. The application to allow virtual reality live streaming has now been developed and is ready for implementation, which will initially be in the Dutch market. In addition, Mr. van Rooijen founded a second startup, Infor-Med (2015), which also uses the application of virtual reality. By providing informative videos using virtual reality, patients are informed about their future treatment in hospitals. In an ideal situation, both products are offered to hospitals as a combination.

In bringing virtual reality to patients in the healthcare sector, VisitU decided the best strategy is to focus on providers of healthcare, such as hospitals, as potential customers for the product. Although patients are the end users, this group is highly variable. Therefore, healthcare institutions should be used to distribute the product towards the end users. Virtual reality by itself attracts millions of potential end users. Focusing merely on healthcare providers reduces this group drastically. To bring the product to these end users, only hundreds of healthcare institutions in the Netherlands are left to potentially buy VisitU's product. Furthermore, the focus on healthcare institutions as customers implies that the focus market is a business-to-business (B2B) market.

Leaving only a very small niche, VisitU found that it is important to increase the rate of turning potential customers into actual customers, followed by creating strong ties to retain these customers and cross-sell products. In order to do so, VisitU aims, among others, at effectively managing relationships with (potential) customers.

## **1.3 Problem statement and research question**

*Problem statement.* VisitU wants to enhance the probability of convincing customers to purchase its products and maintaining its customers. Literature shows that effective application of CRM can play an important role in achieving this goal, but the startup lacks knowledge and insights in prioritizing efforts. To the best of my knowledge, current literature does not provide an answer to this problem.

*Research question.* This research focuses on making recommendations to VisitU on how to construct their customer relationship management. Following the problem statement, the following main research question is posed:

*“How should VisitU construct its customer relationship management to optimize customer acquisition, customer retention, and up-selling/cross-selling rates?”*

In order to develop an answer to this main research question, more specific questions will be answered throughout the study.

By conducting a literature review, the following question will be answered:

*RQ1: “Which effects do different CRM efforts have on customer acquisition, customer retention, and up-selling/cross-selling?”*

By providing empirical evidence the following questions are answered:

*RQ2: “Which CRM related efforts are considered dissatisfiers by healthcare organizations, resulting in decreased acquisition, retention, and up-selling/cross-selling rates, and why?”*

*RQ3: “Which CRM related efforts are considered satisfiers by healthcare organizations, resulting in increased acquisition, retention, and up-selling/cross-selling rates, and why?”*

By conducting a literature review and providing empirical evidence, the following question will be answered:

*RQ4: “Which CRM related efforts require the highest relative priority in healthcare to optimize customer acquisition, customer retention, and up-selling/cross-selling?”*

#### **1.4 Academic and practical relevance**

*Academic relevance.* An overview of all involved CRM related efforts is required to effectively manage customer relations towards improved customer acquisition, customer retention, and up-selling/cross-selling rates. Such overviews are scarce, while the available overviews of CRM efforts serve other goals (e.g., Richards and Jones, 2008). This leaves a gap, which is closed during the literature review.

Furthermore, additional insights are required in the effect of excluding or including such CRM related efforts, in order to construct an effective CRM strategy. Johnston (1995) explains that such efforts can be dissatisfiers or satisfiers. First, a CRM effort can be considered a dissatisfier if insufficient performance or absence of the effort leads to dissatisfaction. This dissatisfaction then results in complaints and leads to negative effects on the desired CRM outcomes (Johnston, 1995). Second, it is stated that satisfiers lead to a strong feeling of satisfaction if performance on the specific effort is extraordinary, while typical performance or absence does not necessarily result in negative effects (Johnston, 1995). Such insights in the effects of excluding or including CRM efforts are key in prioritizing certain efforts. However, only a few articles explain the effect of excluding certain types

of effort, leaving a gap. Payne & Frow (2004) do, as an exception, note that failing to deliver superior value through product customization might very well result in decreased customer acquisition and customer retention. This study will aim at providing insights in the role of each CRM effort to close this gap and enables prioritization of the efforts.

*Practical relevance.* VisitU has now reached the stage where its product enters the market. In order to increase their customer acquisition, retention, and up-selling/cross-selling rates, VisitU believes in the importance of well managed customer relations. As a fresh startup, founded by a medical doctor, knowledge and insights in how to manage their customer relations is lacking at VisitU. Focusing on all CRM effort types would probably increase these rates, but also requires many resources. However, as a startup, only at the beginning of the implementation phase, VisitU is not (yet) able to make such investments. It therefore desires further insights in the relative importance of each CRM effort in order to prioritize certain efforts. These insights then assist in constructing an effective strategy for applying CRM in B2B startups in general. While keeping investments in CRM to a minimum, customer relations can be managed effectively leading to increased customer acquisition, customer retention, and up-selling/cross-selling rates.

Any B2B startup could use the insights following from this research to make informed decisions about including or excluding certain types of CRM related efforts, depending on their available resources. High priority efforts should be included in their CRM strategy immediately, while CRM efforts with lower priority can be introduced in a later phase, when more resources are available for customer relations. Furthermore, established firms could use the results of the study to review and possibly redirect their investments in CRM.

## **1.5 Structure**

*Literature review.* In Chapter 2, a literature review is conducted to identify the effects of customer relationship management. Several CRM related efforts are identified to affect customer acquisition, customer retention, and/or up-selling/cross-selling (RQ1). Finally, a conceptual model is presented.

*Methodology.* Chapter 3 describes the applied method which is used during empirical research. In preparation for empirical research, the scope of this study is set to exclude certain parts of the conceptual model for further review. Furthermore, the data collection method as well as the method of analysis will be discussed.

*Results.* Following the methodology as described in chapter 3, the results are then generated in Chapter 4. These results are generated to explore which of the CRM related efforts, within the set scope, are identified to be dissatisfiers (RQ2) or satisfiers (RQ3). These findings provide the basis to answer RQ4 and the main research question. Propositions are then designed to describe how VisitU should construct its customer relationship management to optimize customer acquisition, customer retention, and up-selling/cross-selling rates.

*Conclusion.* In the final chapter, conclusions on research questions and main question are drawn. Also, both theoretical and managerial implications are provided, as well as limitations and directions for future research.



## 2. Literature review

The main goal of this literature review is to answer RQ1 and provide a basis for answering RQ2 and RQ3 during data analysis. The literature review will answer:

*RQ1: "Which effects do different CRM efforts have on customer acquisition, customer retention, and up-selling/cross-selling?"*

A basis is provided for:

*RQ2: "Which CRM related efforts are considered dissatisfiers by healthcare organizations, resulting in decreased acquisition, retention, and up-selling/cross-selling rates, and why?"*

*RQ3: "Which CRM related efforts are considered satisfiers by healthcare organizations, resulting in increased acquisition, retention, and up-selling/cross-selling rates, and why?"*

The review is initiated by defining CRM, followed by a description of the relevance of CRM in the business model as defined by Osterwalder and Pigneur (2010). After this, two separate methods are applied to answer RQ1; 1) analyzing CRM processes and 2) analyzing antecedents of the three desired CRM outcomes. Finally, a conceptual model is derived involving all relevant CRM efforts. The articles used for the literature review are generally found using scholarly databases such as ABI/Inform and Google Scholar. Additional articles are found using the snowballing technique.

### 2.1 Defining customer relationship management

Osterwalder and Pigneur (2010) explain that their 'customer relationship' block from their business model canvas is about establishing relationships with customer segments based on three desired outcomes: customer acquisition, customer retention, and up-selling/cross-selling. These outcomes are considered key for this literature review. The situation as sketched in the introduction requires more insight in how to establish relationships that increase performance through acquisition, retention, and up-selling/cross-selling. However, very little is explained about the actual CRM that comes with obtaining these outcomes. Although they do mention that customer relations are important, they do not explain how the relations are initiated or maintained. Therefore, an additional definition is required for managing customer relationships.

When it comes to defining CRM, every author creates his own definition with slight differences. This paragraph is committed to getting a clear understanding what CRM is exactly, followed by a paragraph that identifies the involved processes. When customer relationships with the desired outcomes as described by Osterwalder & Pigneur (2010) have to be established, the definition of CRM by Reinartz et al. (2004) seems best applicable. It uses a holistic, customer centric approach: "A systematic process to manage customer relationship initiation, maintenance, and termination across all customer contact points in order to maximize the value of the relationship portfolio (p. 294)." When CRM is well implemented, firms gain the ability to treat customers in an individualized manner depending on the stage a customer relationship is in. This also includes being able to influence customers into the next relationship stage (Zeithaml, Rust & Lemon, 2001). Implementing CRM on a

high level allows firms to identify the profitability of customers, to which the firm can align their resources (Mulhern, 1999).

To implement CRM at such a high level, Reinartz et al. (2004) further define the three CRM stages, initiation, maintenance, and termination, into substages. First, the initiation stage contains customer evaluation, acquisition management, and recovery management (Reinartz et al., 2004). The main focus of the initiation stage is to acquire customers, whether these customers are new (Reinartz et al., 2004) or previously were customers (Gupta & Zeithaml, 2006; Thomas, Blattberg & Fox, 2004). Second, the maintenance stage contains customer evaluation, retention management, up-selling/cross-selling management, and referral management (Reinartz et al., 2004). The maintenance stage focuses on two of the three desired CRM outcomes: customer retention and up-selling/cross-selling. Third, the termination stage contains customer evaluation and exit management. Richards and Jones (2008) explain that very little support was found on the impact of CRM on performance in the termination stage. Therefore, the termination stage is considered irrelevant for this review. Also, this stage is not (yet) interesting for VisitU/Infor-Med.

The evaluation of the definition by Reinartz et al. (2004) leaves two relevant CRM stages for this research: the initiation stage and the maintenance stage. The substages as mentioned above show that the initiation stage and the maintenance stage cover the desired outcomes as defined by Osterwalder and Pigneur (2010).

## **2.2 Application of CRM in current business model**

To get a clear insight in CRM's role in the current business of VisitU and Infor-Med, the business model canvas of Osterwalder and Pigneur (2010) is analyzed. This canvas is applied by both startups and assists in defining relevant business aspects, such as value propositions, channels, and customer relationships. This section describes these aspects as they are considered to be the relevant business aspects with regard to CRM.

*Value propositions.* The firm first identifies one or more customer segments, for which it attempts to offer added value by solving problems or satisfying needs (Osterwalder & Pigneur, 2010). The value offered to customers are mentioned in value propositions. Anderson, Narus, and van Rossum (2006) identify properly constructed and delivered value propositions as an important contributor to both business strategy and performance through best practices. When defining value propositions, a distinction should be made between the goods-dominant (G-D) logic and the service-dominant (S-D) logic. Skålén et al. (2015) define value propositions for the G-D logic as: "A clear, simple statement of the benefits, both tangible and intangible, that the company will provide, along with the approximate price it will charge each customer." On the other hand, Grönroos & Voima (2013, p. 145) state the following for the S-D logic: "the value proposition must be considered a promise that customers can extract some value from an offering." The case as previously described follows the S-D logic.

*Channels.* According to Osterwalder & Pigneur (2010), value propositions are offered to customer segments through communication, distribution and sales channels, which include all points where customers get into contact with the firm. These 'touch points' are distributed over five so called

channel phases, each of which has its own function: 1) raising awareness, 2) evaluating value propositions, 3) purchasing products/service, 4) delivering value propositions, and 5) post-purchase support (Osterwalder & Pigneur, 2010). These different channel phases require integration of multiple channels (Friedman & Furey, 1999; Moriarty & Moran, 1990). Payne & Frow (2004) explain that integration of multiple channels is a process within management of customer relationships (CRM). This process will be further elaborated in the following section.

*Customer relationships.* For each customer segment, the firm should establish a certain type of customer relationship to make sure that promises of offered value are honored. The type of customer relationship depends on the firm's desired outcomes and may range from automated services to personal assistance. Osterwalder & Pigneur (2010) identify three of these possible outcomes: customer acquisition, customer retention and boosting sales (up-selling/cross-selling). A systematic process is required to steer customer relationships towards these outcomes, which is identified as CRM by Reinartz et al. (2004).

### **2.3 Analyzing CRM processes**

In order to discover how customer acquisition, customer retention, and up-selling/cross-selling are influenced by CRM, the relevant processes that are involved with CRM are now reviewed in detail. By reviewing these processes, CRM related efforts which influence the desired CRM outcomes can be identified.

Several authors explain that many cross-functional elements must be integrated to effectively manage customer relationships (e.g., Payne & Frow, 2005; Webster, 2002). By integrating processes, people, operations and marketing capabilities, improved value for the firm will follow from CRM. This requires information, technology, and applications (Payne & Frow, 2005). Additionally, to better deliver value to customers through CRM, Parvatiyar & Sheth (2001) describe that the functions marketing, sales, customer service, and supply chain must be integrated. Payne & Frow (2005) develop a CRM framework involving five key cross-functional processes to successfully manage this integration: 1) the strategy development process, 2) the value creation process, 3) the multichannel integration process, 4) the information management process, and 5) the performance assessment process. These cross-functional processes are widely accepted and applied (e.g., Boulding et al., 2005; Öztaysi, Sezgin & Fahri Özok, 2011; Shah et al., 2006).

The strategy development process is about adapting a firm's business strategy and customer strategy to each other. The more the strategies interrelate, the higher the probability of successfully implementing a CRM strategy (Payne & Frow, 2005). Second, the value creation process focuses at designing programs to both extract and deliver value. This process makes sure that value propositions are defined which assure that both the company and its customers receive value from each other (Skålén et al., 2015). Next, the multichannel integration process uses the first two processes and translates the outputs into value-adding activities related to customers. This process has its focus on choosing the right channel (combination) to assign the value-adding activities (e.g., Payne & Frow, 2004; Stone, Hobbs & Khaleeli, 2002). Furthermore, the information management process collects and uses customer data gathered from all customer interactions to gain insight in

customer behavior, wishes, and needs. Based on this data, multiple activities including direct customer interaction are supported (Greenberg, 2001). Finally, the performance assessment process monitors whether the firm's strategies have the right focus and are lived up to well enough (Payne & Frow, 2005).

All five processes are considered key in CRM by Payne and Frow (2005), but two of the processes, strategy development and performance assessment are not included in this study. First, the development of a strategy can only be properly executed in an efficient manner if all of CRM's relevant efforts which influence acquisition, retention, and up-selling/cross-selling are known. This literature review aims at making clear which CRM efforts are relevant in order to develop a CRM strategy. The development strategy process itself is not able to provide such insights and is therefore considered irrelevant for this review. On the contrary, the value creation process, multichannel integration process, and information management process, use customer relationships as a base to successfully execute the processes and are considered relevant to identify these CRM related efforts. Second, performance assessment is merely about assessing whether the focus and execution of the strategy positively influences firm performance (Payne and Frow, 2005). This review will result in a clear understanding of which CRM efforts influence three important performance measures. The performance assessment process would be useful to assess the outcome of this review, but not throughout the review itself. Therefore, it is also excluded from further review.

The value creation process, the multichannel integration process, and the information management process will therefore be used for further review in order to identify CRM efforts that influence the desired outcomes.

#### *Value creation process*

The value creation process of CRM is about creating and receiving added value for both customers and the firm (Skålén et al., 2015). The value creation process involves functions and activities which focus on offering added value to customers. When successfully offering added value to customers, firms will receive value in return through increased customer intentions to acquire and/or retain with a firm, or to cross-buy additional products (Payne & Frow, 2005). Therefore, the analysis of the value creation process will merely focus on value creation for the customer.

Exchanging and receiving value for the customer can be divided into two phases: development phase and consumption phase. Both phases have their own type of value creation. Promises for added value are determined during the development phase, while these promises are actually turned into value during the consumption phase (Grönroos, 2008).

Several authors identify the customer as a co-creator in the development phase (Bendapudi & Leone, 2003; Prahalad & Ramaswamy, 2004; Vargo & Lusch, 2004), while value co-creation is identified by some authors as the key part in a relationship between firms and its customers (Grönroos, 2008; Håkansson & Ford, 2002; Vargo & Lusch, 2008). The customer's role as a co-creator and the along coming benefits that belong to them should be integrated in the value propositions. To further elaborate on the customer-firm relationship, Lanning (1998) researched whether co-creation is likely to create a superior customer experience through value propositions. To achieve this, companies

should include a value assessment using tools such as a conjoint analysis to the co-creation process (Lanning, 1998). Relative importance of each possible attribute as well as entire market segments are discovered by using such analytical tools. This suggests that the involvement of customers (e.g., through co-creation and value assessments) during the development phase could potentially lead to superior value propositions. Chang & Wildt (1994) find that value perceived by potential customers contributes to their purchase intentions. This implies that superior value improves customer acquisition rates. Additionally, Richards and Jones (2008) find that superior value offering results in increased performance in the maintenance stage as defined by Reinartz et al. (2004). As previously mentioned, Reinartz et al. (2004) distinguish an initiation stage, which covers customer acquisition, and a maintenance stage, covering customer retention and up-selling/cross-selling. A combination of the findings by Chang and Wildt (1994) and Richards and Jones (2008) indicates that offering superior value influences customer acquisition, customer retention, and up-selling/cross-selling. 'Customer involvement' is identified as a CRM effort which does affect the offer of superior value.

During the consumption phase, value is created by the customer through so called value-in-use (Grönroos, 2008). The customer uses its own resources and skills to receive added value from goods and/or services, while receiving support from the firm through interactions if necessary. Offering customer support makes sure that promises stated in value propositions are indeed honored, resulting in superior value (Grönroos, 2008). Therefore, 'customer support' is also identified as a CRM effort to affect the offering of superior value, which in turn affects all CRM related efforts.

In sum, from the evaluation of the value creation process, two types of CRM related efforts are found to support the offering of superior value, which increases customer acquisition, customer retention, and up-selling/cross-selling (Chang & Wildt, 1994; Richards & Jones, 2008). The CRM related efforts improved 'customer involvement' (Lanning, 1998) and better 'customer support' (Grönroos, 2008) increase customer acquisition, customer retention, and up-selling/cross-selling, as they are found to support the offering of superior value.

#### *Multichannel integration process*

The multichannel integration process is key in CRM as it gathers outcomes of both the strategy development process and the value creation process. The process then uses this to set up value-adding relationships with customers. This process focuses on assuring that interaction between the company and its customers is of high quality, including selecting the best channels to interact with customers to make sure that customers experience the interactions as positive. Furthermore, the process makes sure that, if more channels are used, all output data is unified (Payne & Frow, 2005).

Since product life cycles are nowadays very short in many cases, a company is likely to gain competition within a short notice of time imitating new innovations (Christopher, Payne, & Ballantyne, 2002). CRM therefore involves creating tight relationships with a company's most profitable customers, instead of focusing on the mass market (Payne & Frow, 2004). By using several channels to maintain frequent interaction with the customer, important values of these highly profitable customers are identified. These identified values can be defined in value propositions and are used to offer superior value (Payne & Frow, 2004). Offering of superior value was previously found to have influence on all three of the desired CRM outcomes (Chang & Wildt, 1994; Richards &

Jones, 2008). From this, increased 'interaction frequency' is identified as a CRM effort to increase customer acquisition, customer retention, and up-selling/cross-selling.

The multichannel integration process has to make sure that relationships with customers are kept at high levels at all time through multiple channels. All interactions through channels influence the customer journey, the customer's overall experience of its interaction with a firm (Rawson, Duncan, & Jones, 2013). To strengthen this customer experience, channels require to be integrated (Payne & Frow, 2004). When consistent (product) information flows across several channels, customers experience more convenience. According to Richards and Jones (2008) improved 'information flow' leads to increased customer retention and acquisition, and stimulates up-selling/cross-selling. They also find that improved CRM technology is mediated by improved information flow. This suggests that CRM technology also influences all three of the desired CRM outcomes through information flow (Richards & Jones, 2008).

Based on the evaluation of the multichannel integration process, offering superior value results in improved customer acquisition, customer retention, and up-selling/cross-selling (Chang & Wildt, 1994; Richards & Jones, 2008). 'Interaction frequency' assists in offering superior value (Payne & Frow, 2004). Therefore, increased 'interaction frequency' is identified as a CRM related effort to increase customer acquisition, customer retention, and up-selling/cross-selling. Furthermore, better 'information flow' is found to improve customer acquisition, customer retention, and up-selling/cross-selling (Richards & Jones, 2008). Finally, improved 'CRM technology' indirectly improves customer acquisition, customer retention, and up-selling/cross-selling, as it improves the information flow (Richards & Jones, 2008).

#### *Information management process*

Information management is about gathering and using customer data to gain insight in customers and adjust marketing responses towards this data (Payne & Frow, 2005). Customization is considered to be a key ability derived from a CRM's information management process and can be applied to customize products, personalize messaging, and improve pricing (Chen & Ching, 2004; Rust, Lemon, & Zeithaml, 2001; Sheth, Sisodia, & Sharma, 2000). These three types of customization are now further elaborated on in order to identify CRM efforts which influence acquisition, retention, and up-selling/cross-selling. Additionally, enabling customization requires certain background efforts. After analyzing the three types of customization, these background efforts are discussed in order to identify additional CRM related efforts.

*Customized products and services.* Due to the growing importance of services over the past years, marketing, product development, and production capacity have moved towards customer demands (Richards & Jones, 2008). To achieve this, services are more and more co-created during the acquisition phase (Jones, Brown et al., 2005; Jones, Stevens, & Chonko, 2005). Also, manufacturers have gained capabilities to customize products and services in high speed to meet these customer demands. Evolution of technology has resulted in automated manufacturing and improved self-service possibilities (Richards & Jones, 2008). Richards and Jones (2008) find that product/service customization assists in offering superior value by focusing on specific needs of each customer. It was previously mentioned that offering superior value increases the positive effects of all three of the

desired outcomes (Chang & Wildt, 1994; Richards & Jones, 2008). This suggests an influencing role for 'customizing products/services' on customer acquisition, customer retention, and up-selling/cross-selling. However, failing to deliver a superior value through product customization might very well result in the opposite (Payne & Frow, 2004).

From this evaluation, 'customized products/services' is identified to assist in offering superior value. Therefore, improved 'customized products/services' is identified to increase customer acquisition, customer retention, and up-selling/cross-selling (Richards & Jones, 2008).

*Personalized messages.* Since the move towards customer-centric marketing, firms struggle to focus on each customer's individualized demand (Sheth, Sisodia, & Sharma, 2000). In order to manage this, CRM capabilities should be improved to better act towards individual customer behavior. By personalizing marketing messages, an adequate marketing response can be designed to achieve this (Richards & Jones, 2008; Sheth et al., 2000). Richards & Jones (2008) explain that this type of customization is highly appreciated by customers. This leads to better performance in both the initiation and the maintenance stage as defined by Reinartz et al. (2004). Furthermore, personalized messages can be used to address service recovery in a more personal manner, which also leads to improved performance in the initiation and maintenance stage (Richards & Jones, 2008). As explained in section 2.1, the initiation stage and maintenance stage cover all three of the desired CRM outcomes.

From this evaluation, increased 'personalized marketing' (Sheth et al., 2000) and improved 'service recovery' (Richards & Jones, 2008) are identified to positively influence customer acquisition, customer retention, and up-selling/cross-selling.

*Improved pricing.* When it comes to customization, Richards & Jones (2008) also identify personalized pricing as important within CRM. Firms often average the costs they make for managing customer relationships and then come to one and the same price for every type of customer (Reinartz & Kumar, 2000). According to Richards & Jones (2008), improved pricing has a positive effect on both the initiation and maintenance stage as defined by Reinartz et al. (2004). This contains all of Osterwalder & Pigneur's (2010) desired CRM outcomes.

Based on this type of customization, 'improved pricing' is identified to increase customer acquisition, customer retention, and up-selling/cross-selling (Rust et al., 2001).

*Background efforts.* Within the information management process, several background efforts are identified to enable the three customization types which are mentioned above. Mithas, Krishnan, and Fornell (2005) note that individual customer knowledge is required for each customer in order to customize products, messages, and prices. Customer knowledge follows from frequent interaction between the company and its customers and provides insight in needs of customers (Mithas et al., 2005). This customer knowledge is then translated into adjusted marketing responses using specialized CRM technology (Buttle, 2004; Chen & Ching, 2004; Rust et al., 2001; Sabri, 2003). CRM technology increases the ability to customize products and services, by better focusing on customer needs (Chen & Ching, 2004; Sabri, 2003). Also, specialized CRM technology creates the possibility to

personalize messages for each customer (Chen & Ching, 2004; Sabri, 2003). Furthermore, CRM technology assists in determining the costs for each individual customer and in adjusting the price to the customers' demand characteristics (Buttle, 2004; Rust et al., 2001).

Based on this, all three types of customization require improved 'CRM technology' (Buttle, 2004; Chen & Ching, 2004; Rust et al., 2001; Sabri, 2003). To apply 'CRM technology' in customization, it requires better 'customer knowledge' (Mithas et al., 2005), and higher 'interaction frequency' (Mithas et al., 2005). Therefore, these background efforts are also identified to indirectly increase customer acquisition, customer retention, and up-selling/cross-selling, as they positively affect the ability to customize.

#### *Findings from CRM processes*

Based on the first strategy, eight CRM related efforts which directly influence desired CRM outcomes are identified. Also, three CRM related efforts are identified to indirectly influence the desired CRM outcomes. These are displayed in Table 1.

	CRM stage	Initiation stage	Maintenance stage	
CRM efforts	Desired outcome	Customer acquisition	Customer retention	Up-selling/cross-selling
<b>Direct effects</b>				
1. Customer involvement		Lanning (1998)	Lanning (1998)	Lanning (1998)
2. Customer support		Grönroos (2008)	Grönroos (2008)	Grönroos (2008)
3. Interaction frequency		Mithas et al. (2005); Payne & Frow (2004)	Mithas et al. (2005); Payne & Frow (2004)	Mithas et al. (2005); Payne & Frow (2004)
4. Information flow		Richards & Jones (2008)	Richards & Jones (2008)	Richards & Jones (2008)
5. Customized products/services		Richards & Jones (2008)	Richards & Jones (2008)	Richards & Jones (2008)
6. Personalized marketing		Sheth et al. (2000)	Sheth et al. (2000)	Sheth et al. (2000)
7. Service recovery		Richards & Jones (2008)	Richards & Jones (2008)	Richards & Jones (2008)
8. Improved pricing		Rust et al. (2001)	Rust et al. (2001)	Rust et al. (2001)
<b>Indirect effects</b>				
9. CRM Technology		Buttle (2004); Chen & Ching (2004); Richards & Jones (2008); Rust et al. (2001); Sabri (2003)	Buttle (2004); Chen & Ching (2004); Richards & Jones (2008); Rust et al. (2001); Sabri (2003);	Buttle (2004); Chen & Ching (2004); Richards & Jones (2008); Rust et al. (2001); Sabri (2003)
10. Customer knowledge		Mithas et al. (2005)	Mithas et al. (2005)	Mithas et al. (2005)
11. Interaction frequency		Mithas et al. (2005)	Mithas et al. (2005)	Mithas et al. (2005)

**Table 1: Identified efforts from CRM processes (including the corresponding references)**

## **2.4 Analyzing antecedents of the three desired CRM outcomes**

This section focuses on identifying CRM efforts which influence customer acquisition, customer retention, and up-selling/cross-selling. This section, however, does identify the CRM efforts in a backward process. By analyzing antecedents of the three desired outcomes, the related CRM efforts are derived. By doing this, CRM efforts may be identified which were excluded or not identified by analysis of the CRM processes. The antecedents, however, do in many cases influence more than one



of the desired outcomes. These antecedents are mentioned later in this section, where influence on multiple desired outcomes is mentioned.

#### *Customer acquisition*

To improve customer acquisition rates, firms should focus on improving their efficiency of customer targeting (Bodapati & Gupta, 2004), acquisition channels (Verhoef & Donkers, 2005), and on allocating resources better (Thomas, Reinartz & Kumar, 2004; Venkatesan & Kumar, 2004). Analyzing these antecedents identifies CRM efforts which at least influence customer acquisition. However, since none of the antecedents were found to merely affect customer acquisition, these are analyzed later in this review.

#### *Customer retention*

According to Ranaweera and Prabhu (2003), customer retention is directly influenced by satisfaction, trust, and switching barriers. Customer satisfaction has the largest impact on customer retention (Ranaweera & Prabhu, 2003). Besides their direct influence, trust and switching barriers are also found to mediate the effect of satisfaction on customer retention (Ranaweera & Prabhu, 2003). However, only the direct influences of the antecedents, satisfaction, trust, and switching barriers, are reviewed as these are relevant to identify effects of CRM related efforts. The mediating effects of trust and switching barriers towards satisfaction are not considered to be relevant for identification of CRM efforts. These effects do not assist in identifying additional effects of CRM efforts. The analysis finds that only switching barriers do merely affect customer retention. Therefore, the antecedents satisfaction and trust are mentioned later in this review.

When it comes to switching barriers, financial disadvantages when switching suppliers/providers are often named in literature to be the most important barrier (e.g., Colgate & Lang, 2001). These disadvantages are not related to the management of customer relationships. Therefore, this is not included as CRM related effort to influence customer retention. Switching barriers that are related to CRM sound very similar to retention motivations. Both make sure that customers will stay with the firm. However, some reviews do identify CRM factors specifically for creating switching barriers.

First, Kamakura et al. (2003) find that up-selling and cross-selling strengthen the reliance of customers on a firm. This results in higher switching barriers. These customers have higher switching costs and recurrent needs (Bowman and Narayandas, 2001; Reinartz and Kumar, 2003), causing a lock-in effect. Based on this, it is stated that desired, final CRM outcome 'up-selling/cross-selling' increases customer retention. Second, not resolving or answering to complaints leads to switching customers. CRM should make sure that service recovery is managed well to avoid this cause of switching (Zineldin, 2006). Next, stronger personal relationships between customers and service employees increase switching barriers (Berry & Parasuraman, 1991). Finally, the availability of alternatives is a very important switching barrier (Patterson & Smith, 2003). If more attractive alternatives are available for a customer, the customer is very likely to switch to this alternative. In order to prevent this, all CRM factors as previously defined should be used to make the firm's alternative as attractive as possible.

From this, improved 'up-selling/cross-selling' (Bowman & Narayandas, 2001; Kamakura et al., 2003; Reinartz & Kumar, 2003), 'service recovery' (Zineldin, 2006), and strengthened 'personal relationship' (Berry & Parasuraman, 1991) are identified to improve customer retention.

#### *Up-selling/cross-selling*

Several authors have examined why customers would buy several products from the same company. The identified determinants include possession of other products of a firm (Kamakura, Ramaswami & Srivastava, 1991), satisfaction with possessed products (Wangenheim, 2004) and the associated payment equity (Verhoef, Franses & Hoekstra, 2001), and environmental factors (Stremersch et al., 2003). Possession of other products is considered a prerequisite, as up-selling/cross-selling is only possible when at least one other product has already been sold. It is considered irrelevant for this review. Environmental factors are not in control of a company and are therefore considered out of the scope of this review. The other two determinants, product satisfaction and payment equity require further review. However, payment equity affects more than one of the desired outcomes and is therefore mentioned later this review.

Wangenheim (2004) names product satisfaction as an antecedent for up-selling/cross-selling. Product satisfaction is considered to be a part of overall customer satisfaction. Product satisfaction follows from using a product, while customer satisfaction contains satisfaction about the entire service experience (Goff et al., 1997; Wangenheim, 2004). Product satisfaction assists in increasing the overall customer satisfaction (Goff et al., 1997). When it comes to CRM efforts to assure product satisfaction, three kinds of efforts are identified. First, extensive after-sales support is named to increase overall product satisfaction for both products and services (Ives & Vitale, 1988). This improved 'customer support' offers help when customers are not able to extract value from using a product or service, leading to product satisfaction (Grönroos, 2008). Second, interactive and interpersonal channels are identified by Stuart-Menteth, Arbuthnot, and Wilson (2005) to enable firms to offer a high and stable experience. This strengthened 'experience stability' leads to enhanced product satisfaction. Third, it is argued that complaints most often follow from negative performance experiences and result in product dissatisfaction (e.g., Bearden & Teel 1983; Oliver & Swan, 1989). However, several authors explain that the adequate response to these complaints are related to above average product satisfaction (e.g., Bearden & Oliver, 1985; Zineldin, 2006). Therefore, improved 'service recovery' is identified to increase product satisfaction.

From this evaluation, improved 'customer support' (Grönroos, 2008; Ives & Vitale, 1988), strengthened 'experience stability' (Stuart-Menteth et al., 2005), and improved 'service recovery' (e.g., Bearden & Oliver, 1985; Zineldin, 2006) are identified to positively influence up-selling/cross-selling.

#### *Customer acquisition and customer retention*

This paragraph examines the antecedents that influence customer acquisition and customer retention to identify CRM efforts. In order to do so, efficient targeting, acquisition channels, and allocating resources are discussed.

*Efficient targeting.* Bodapati and Gupta (2004) state that efficient customer targeting is an antecedent for customer acquisition. According to several authors, understanding the balance between expenses of acquiring and maintaining a customer during the entire relationship and the corresponding profit margin is key to target the most profitable customers (Chen & Popovich, 2003; Reinartz et al., 2004; Rigby, Reichheld, & Schefter, 2002; Sabri, 2003). Thomas et al. (2004) describe that firms are often discouraged to acquire customers when acquisition costs are high. These firms ignore the profitability on the long term which would result in a positive profit margin (Thomas et al., 2004). This suggests that improved customer targeting would also lead to customer retention. Thomas et al. (2004) explain that 'customer knowledge' as defined by Mithas et al. (2005) is required to target customers efficiently. As mentioned previously, this requires frequent interactions between the company and its customers (Mithas et al., 2005). Through the use of 'CRM technology', this customer knowledge can be turned into an efficient targeting strategy (Thomas et al., 2004).

From this, improved 'customer targeting' (Thomas et al., 2004) is identified as a CRM related effort which leads to increased customer acquisition and retention. As 'customer knowledge' (Mithas et al., 2005), 'interaction frequency' (Mithas et al., 2005), and 'CRM technology' (Thomas et al., 2004) function as assistors of 'customer targeting', these are also identified to have indirect effects on customer acquisition and retention.

*Acquisition channels.* Verhoef and Donkers (2005) find that acquisition channels are important to improve customer acquisition rates. When it comes to choosing a channel type for acquisition purposes, several authors describe that highly interpersonal contact channels are best to use (e.g. Reinartz, Thomas & Kumar, 2005; Venkatesan & Kumar, 2004). Reinartz et al. (2005) provide personal selling, telephone, direct mail, and e-mail as examples of more or less interpersonal. It is argued that purchase frequencies increase as contact channels become more interpersonal (Mohr & Nevin, 1990; Moriarty & Spekman, 1984; Venkatesan & Kumar, 2004). Also, Reinartz et al. (2005) explain that more interpersonal contact channels are related to higher customer retention rates. Personal selling is considered the best interpersonal channel option due to product/service customization, highly frequent interaction, and creation of personal relationships (Moriarty & Spekman, 1984; Reinartz et al., 2005; Stewart & Kamins, 2002). This identifies 'customized products/services', 'interaction frequency', and 'personal relationships' to influence customer acquisition and retention.

Additionally, acquisition rates are found to be higher when an interpersonal contact channel is used in situations where customers are highly involved in decision making regarding to a (customized) product (Anderson & Narus, 1999). This is often the case in B2B settings (Anderson & Narus, 1999).

From this evaluation, improved selection of 'channel type', is identified to have an indirect influence on increasing customer acquisition rates (Mohr & Nevin, 1990; Moriarty & Spekman, 1984; Venkatesan & Kumar, 2004) and customer retention rates (Reinartz et al., 2005). A better channel selection positively influences improved 'customized products/services', higher 'interaction frequency' and strengthened 'personal relationships' (Moriarty & Spekman, 1984; Reinartz et al., 2005; Stewart & Kamins, 2002). Therefore, 'customized products/services', 'interaction frequency', and 'personal relationships' are identified as CRM related efforts to influence customer acquisition and customer retention.

*Allocating resources.* A better allocation of resources is identified to be an antecedent for increased customer acquisition rates (Thomas et al., 2004; Venkatesan & Kumar, 2004). However, several authors use formulas for optimal resource allocation (e.g., Berger & Bechwati, 2001; Blattberg & Deighton, 1996), which also include retention efforts. Therefore, any type of CRM effort that improves the allocation of resources is considered to increase both customer acquisition and retention. The formulas require an estimation of the maximum of customers a firm can acquire and retain (Blattberg & Deighton, 1996). Therefore, CRM technology is needed to gather and analyze customer data (Thomas et al., 2004). The results of this analysis then allows a firm to find the optimal balance in allocation of resources to improve customer acquisition and retention (Berger & Bechwati, 2001). According to Rust, Zeithaml, and Lemon (2004), these resources are allocated to marketing actions to improve customer acquisition and retention. From this, it is concluded that better focused 'marketing actions' affect customer acquisition and retention rates. 'CRM technology' does once again play an underlying role as it affects the effect of marketing actions.

In the examples above, CRM data to improve allocating resources is important for both acquisition and retention. Firms acknowledge expenses on acquiring customers as important, as the acquisition process affects probability of retention (Thomas, 2001). In fact, Reinartz et al. (2004) describe that improved resource allocation is likely to have more effect on retention than on acquisition. They explain that insufficient resources on customer retention has a larger impact on long-term customer profitability than insufficient resources on customer acquisition (Reinartz et al., 2004). Furthermore, the customer lifetime value will be improved if the strategy of marketing contacts is properly designed across various channels (Venkatesan & Kumar, 2004). When allocating resources to different channels, differences in customer responses should be taken into account (e.g., Moriarty & Spekman, 1984; Reinartz et al., 2005; Stewart & Kamins, 2002). From this, 'channel type' is identified to assist 'marketing actions' in influencing customer acquisition and retention rates.

Based on this, better focused 'marketing actions' (Rust et al., 2004) is identified as a CRM effort that increases both customer acquisition and customer retention. Also, improved 'CRM technology' (Thomas et al., 2004) and improved selection of 'channel type' (Venkatesan & Kumar, 2004) are found to be required to properly assign marketing actions. Therefore, 'CRM technology' and 'channel type' do indirectly increase customer acquisition and customer retention.

#### *Customer retention and up-selling/cross-selling*

This paragraph examines the antecedents that influence customer retention and up-selling/cross-selling to identify CRM efforts. In order to do so, trust and payment equity are discussed.

*Trust.* According to Ranaweera & Prabhu (2003), an antecedent for customer retention is, among others, trust. Also, trust is found to directly influence up-selling/cross-selling (Aurier & N'Goala, 2010). Therefore, any type of CRM effort that influences trust affects customer retention and up-selling/cross-selling.

Morgan and Hunt (1994, p. 23) define trust as "existing when one party has confidence in an exchange partner's reliability and integrity." Trust has been identified as an important factor in

customer relationships. Strengthened mutual trust increases relational capital (Kale, Singh & Perlmutter, 2000). Trust follows from frequent, direct interactions at the individual level and the personal relationships that follow from these interactions (Kale et al., 2000). According to Choy, Lee, and Lo (2002), firms can apply technological CRM solutions to better allow customers to directly interact with the firm. This offers support to interact and to build personal relationships. Furthermore, customer trust is enforced if a firm can offer consistent product experiences (Payne & Frow, 2004). From this, 'interaction frequency', 'personal relationships', and 'experience stability' are found to influence trust.

Since trust directly influences customer retention and up-selling/cross-selling, higher 'interaction frequency' (Kale et al., 2000), strengthened 'personal relationships' (Kale et al., 2000), and improved 'experience stability' (Payne & Frow, 2004) are identified to increase customer retention and up-selling/cross-selling. Furthermore, as improved 'CRM technology' (Choy et al., 2002) affects the effect of 'interaction frequency' and 'personal relationships', it does indirectly increase customer retention and up-selling/cross-selling.

*Payment equity.* Verhoef et al. (2001) identify payment equity as an antecedent for up-selling/cross-selling. Payment equity, or perceived value, is defined as the customers' perceptions on whether they believe if the paid price for a product is fair (Bolton & Lemon, 1999; Johnson, Herrmann, & Huber, 2006; Verhoef, 2003). Simplified, payment equity (or perceived value) is the difference between benefits and costs which a customer receives from a product (McDougall & Levesque, 2000). This ultimately results in price satisfaction (Verhoef et al., 2001). According to several authors, higher payment equity also results in increased customer retention (e.g. Bolton, Kannan, & Bramlett 2000; Varuki and Colgate 2001). Therefore, any CRM effect that positively affects price satisfaction has a positive influence on both customer retention and up-selling/cross-selling.

To increase payment equity, either the costs of the products should be decreased or its benefits should be increased. However, payment equity is highly personal and is likely to vary for each customer (Holbrook, 1994; Zeithaml, 1988). To cope with different perceptions for each customer, personalization offers a solution. First, 'improved pricing' focuses on adjusting a product price towards customers' demands (Buttle, 2004; Rust et al., 2001). Second, 'customized products/services' allows firms to adjust products towards customer needs (Chen & Ching, 2004; Sabri, 2003). By customizing a product, a firm can focus on optimizing the customer's benefits. This leads to increased payment equity. From this, 'improved pricing' and 'customized products/services' are identified to positively influence payment equity.

Increased payment equity is identified to influence both customer retention and up-selling/cross-selling. From this, 'improved pricing' (Buttle, 2004; Rust et al., 2001) and 'customized products/services' (Chen & Ching, 2004; Sabri, 2003) are identified to increase customer retention and up-selling/cross-selling.

#### *Customer acquisition, customer retention, and up-selling/cross-selling*

This paragraph examines the antecedents that influence customer acquisition, customer retention, and up-selling/cross-selling to identify CRM efforts. In order to do so, satisfaction is discussed.

Ranaweera & Prabhu (2003) provide empirical evidence that customer satisfaction is the most important antecedent of customer retention rates. Other research also shows that customer satisfaction ratings are positively related to relationship duration (Bolton, 1998). Customer satisfaction does also have an impact on word-of-mouth, where customers refer a firm's product to other customers (Villanueva, Yoo, & Hanssens, 2008). High customer satisfaction is positively related to positive word-of-mouth which then positively influences sales and market share (Danaher & Rust, 1996). This positive impact on sales is more or less comparable to a positive impact on the acquisition rate. Villanueva et al. (2008) do indeed confirm that word-of-mouth stimulates customer acquisitions. This implies an important role for satisfied customers. Furthermore, several authors find that customer satisfaction is related to cross-buying by customers (e.g., Bolton, 1998; Bolton & Lemon, 1999; Mittal & Kamakura, 2001). Therefore, any CRM factor that influences customer satisfaction has influence on all three of CRM's desired outcomes: customer acquisition, customer retention, and up-selling/cross-selling.

Mithas et al. (2005) argue that using CRM is related to increased customer satisfaction, including two examples. First, when a firm's offerings are customized to the personal preferences of customers, customers perceive higher quality. This perceived quality of products and services is directly related to customer satisfaction (Mithas et al, 2005). This identifies 'product customization' as an influencer of customer satisfaction. Second, CRM is identified as a means to increase customer satisfaction by keeping customer's consumption experience at a stable level (Mithas et al., 2005; Piccoli & Applegate, 2003). The authors explain that enhanced stability of consumption experience improves the quality perceived by customers. This results in customer satisfaction (Mithas et al., 2005; Piccoli & Applegate, 2003). Furthermore, Zineldin (2006) finds that handling complaints effectively leads to satisfied customers, who spread positive word-of-mouth. From this, 'product customization', 'experience stability', and 'service recovery' are identified to increase customer satisfaction.

Customer satisfaction increases all desired CRM outcomes. Therefore, 'product customization' (Mithas et al., 2005), 'experience stability' (Mithas et al., 2005; Piccoli & Applegate, 2003), and 'service recovery' (Zineldin, 2006) are identified as effects of CRM efforts that positively influence customer acquisition, retention, and up-selling/cross-selling through customer satisfaction.

*Findings from backward processes*

Based on the second strategy, ten types of CRM related efforts which directly influence desired CRM outcomes are identified. Also, four types of CRM related efforts are identified that indirectly influence the desired CRM outcomes. These are displayed in Table 2.

	CRM stage	Initiation stage	Maintenance stage
Desired outcome	Customer acquisition	Customer retention	Up-selling/cross-selling
<b>CRM efforts</b>			
<b>Direct effects</b>			
<b>1. Up-selling/cross-selling</b>	-	Bowman & Narayandas (2001); Kamakura et al. (2003); Reinartz & Kumar (2003)	-

<b>2. Service recovery</b>	Zineldin (2006)	Zineldin (2006)	Bearden & Oliver (1985); Zineldin (2006)
<b>3. Personal relationships</b>	Moriarty & Spekman (1984); Reinartz et al. (2005); Stewart & Kamins (2002)	Berry & Parasuraman (1991); Kale et al. (2000); Moriarty & Spekman (1984); Reinartz et al. (2005); Stewart & Kamins (2002)	Kale et al. (2000)
<b>4. Customer support</b>	-	-	Grönroos (2008); Ives & Vitale (1998)
<b>5. Experience stability</b>	Mithas et al. (2005); Piccoli & Applegate (2003)	Mithas et al. (2005); Payne & Frow (2004); Piccoli & Applegate (2003);	Mithas et al. (2005); Payne & Frow (2004); Piccoli & Applegate (2003); Stuart-Menteth et al. (2005)
<b>6. Customer targeting</b>	Thomas et al. (2004)	Thomas et al. (2004)	-
<b>7. Interaction frequency</b>	Moriarty & Spekman (1984); Reinartz et al. (2005); Stewart & Kamins (2002);	Kale et al. (2000); Moriarty & Spekman (1984); Reinartz et al. (2005); Stewart & Kamins (2002)	Kale et al. (2000)
<b>8. Customized products/services</b>	Mithas et al. (2005); Moriarty & Spekman (1984); Reinartz et al. (2005); Stewart & Kamins (2002)	Mithas et al. (2005); Moriarty & Spekman (1984); Reinartz et al. (2005); Stewart & Kamins (2002)	Chen & Ching (2004); Mithas et al. (2005); Sabri (2003)
<b>9. Marketing actions</b>	Rust et al. (2004)	Rust et al. (2004)	-
<b>10. Improved pricing</b>		Buttle (2004); Rust et al. (2001)	Buttle (2004); Rust et al. (2001)
<b>Indirect effects</b>			
<b>11. Interaction frequency</b>	Mithas et al. (2005)	Mithas et al. (2005)	-
<b>12. Customer knowledge</b>	Mithas et al. (2005)	Mithas et al. (2005)	-
<b>13. CRM technology</b>	Thomas et al. (2004);	Choy et al. (2002); Thomas et al. (2004)	Choy et al. (2002); Thomas et al. (2004)
<b>14. Channel type</b>	-	Mohr & Nevin (1990); Moriarty & Spekman (1984); Venkatesan & Kumar (2004)	Reinartz et al. (2005); Venkatesan & Kumar (2004)

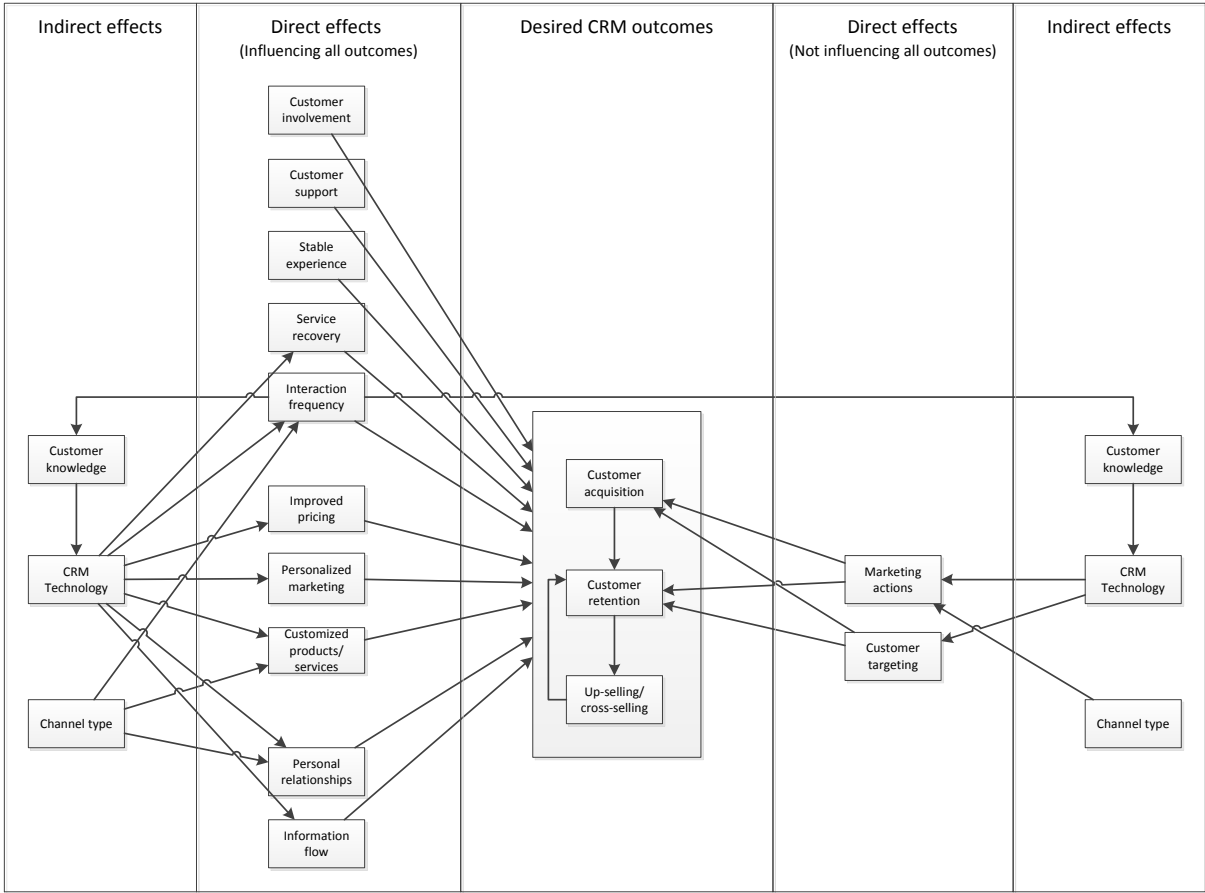
**Table 2: Identified CRM efforts from desired outcomes' antecedents (including the corresponding references)**

## 2.5 Conceptual model

Customer relationships and their corresponding management are generally accepted as important to bring value propositions to customer segments and to increase performance. Despite this fact, overviews of what CRM efforts affect the desired outcomes of customer relationships, i.e. acquisition, retention, and boosting sales, are scarce. Authors often include these desired outcomes in their CRM articles by assigning the outcomes to CRM stages (e.g., Reinartz et al, 2004; Richards & Jones, 2008). The initiation stage focuses on acquiring customers, while the maintenance stage focuses on retaining customers and up-selling/cross-selling.

In search for different types of CRM efforts that influence the desired outcomes of customer relationships as defined by Osterwalder & Pigneur (2010), two strategies were applied. First, the value creation process, multichannel integration process, and information management process as

defined by Payne & Frow (2005) were used to identify several types of CRM efforts to improve customer acquisition, customer retention, and up-selling/cross-selling. This strategy provides insights in activities and functions that are involved with CRM and in this way assisted in identifying eight different types of CRM efforts that directly influence at least one of the desired outcomes. Also, three CRM efforts indirectly influence the desired CRM outcomes. Second, the antecedents of the three desired outcomes are analyzed to gain insights in what types of CRM related efforts influence these antecedents. The second strategy allows to identify CRM efforts which were, deliberately or not, excluded from the processes. This resulted in ten types of CRM related efforts directly influencing the desired outcomes. Also, four CRM efforts are found to have an indirect effect. To merge the results of both strategies, a conceptual model is designed. Figure 1 provides a summary of all identified relations.



**Figure 1: Conceptual model**



### 3. Methodology

This chapter focuses on the methodology as applied throughout this study. By describing the method in detail, controllability of the study is ensured (Swanborn, 1996; Yin, 2009). First, the research scope for empirical research is set (3.1). The research method is then described (3.2), followed by the data collection method (3.3). Finally, the data analysis method is elaborated (3.4).

#### 3.1 Research scope

This paragraph aims at setting the scope towards the goal of the empirical research. The conceptual model as developed during academic literature research provides a very broad scope including many relations. However, parts of the model do not contribute to the identification of dissatisfiers (RQ2) and satisfiers (RQ3). This is now further explained.

*Indirect effects* of CRM related efforts are considered to play large underlying roles in affecting the desired CRM outcomes by providing ground for certain CRM efforts, which in turn have a direct effect on these outcomes. However, the CRM efforts having indirect effects are considered not to have any effect without the presence of at least one CRM effort which is identified to have direct effect on the desired outcomes. Therefore, the CRM efforts ‘customer knowledge’, ‘CRM technology’, and ‘channel type’ receive less emphasis during empirical research. Their importance will be emphasized by identifying which of the directly affecting CRM efforts require the highest relative priority and by describing the role they play in assisting the direct efforts.

*Desired CRM outcomes* are found to influence each other during academic research. The conceptual model for instance implies that customer retention and up-selling/cross-selling influence each other’s rates. However, reviewing these relations does not provide any useful insight towards answering any of the research questions. Therefore, these relations towards each other are considered out of scope for this study.

Those CRM related efforts that fit within the scope of this study are included in Table 3, including their definitions which are retained during the entire study.

CRM effort	Definition
<b>Customer involvement</b>	Involvement of customers in developing products/services (Vargo & Lusch, 2004)
<b>Customer support</b>	A company’s support to customers to assure that promises as stated in value propositions are honored (Grönroos, 2008)
<b>Interaction frequency</b>	Frequency of interaction between supplier and customer, which is maintained using several channels (Payne & Frow 2004)
<b>Information flow</b>	Consistency of (product) information across several channels (Richards & Jones, 2008)
<b>Customized products/services</b>	Designing products/services towards specific customer demands (Richards & Jones, 2008)
<b>Personalized marketing</b>	Personalizing marketing towards specific customer demands (Richards & Jones, 2008)

<b>Service recovery</b>	Adequate response to customer complaints (Zineldin, 2006)
<b>Improved pricing</b>	Personalizing prices of product/service towards specific customer demands (Richards & Jones, 2008)
<b>Experience stability</b>	A product and its along coming service should be provided at a consistent level at all times (Payne & Frow, 2004)
<b>Customer targeting</b>	Putting extra effort in (highly) profitable customers (Thomas et al., 2004)
<b>Personal relationships</b>	Investing in the relationship between supplier and customer on a personal level (Kale et al., 2000)
<b>Marketing actions</b>	Marketing related actions to influence customer's buying behavior (Rust et al., 2004)

**Table 3: CRM efforts used in empirical research**

### 3.2 Research method: qualitative versus quantitative

The empirical part of this study focuses on providing clarity on the importance of each CRM effort. As this knowledge is, to the best of my knowledge, not yet available, this study is considered an explorative one. Whereas quantitative methods are oriented at measuring and quantifying phenomena, or properties of phenomena, qualitative methods allow the discovery of such properties of phenomena (e.g., van Aken, Berends, & van der Bij, 2012) and the development of theories (Flick, 2009). As this study aims at the discovery of properties of CRM efforts and developing a theory around it, a qualitative research method is considered most applicable. In order to develop a generalizable theory, qualitative research should focus on collecting generalizable explanations or arguments (Mason, 2002). Determining how CRM related efforts affect health institutions' behavior and discovering why certain efforts must receive priority over others is the main aim during the empirical research. To find answers to these questions, health organizations should be studied. Van Aken et al. (2012) explain that qualitative research is applicable to study organizations. Using a quantitative method is considered ineffective for this matter (Van Aken et al., 2012).

Qualitative research also takes into account the perspectives of participants. While quantitative research can measure practices within health organizations, qualitative research allows the research to identify the actual subjective perspectives of relevant individuals (Flick, 2009). Flick (2009) states that these individuals' perspectives may differ from practices. Therefore, they assist in assessing the importance of each CRM effort. When applying a qualitative method, communication with the respondents and their working field is considered to be an important source of knowledge. Reflexivity of the researcher allows him to turn observations regarding emotions such as irritations into analyzable data (Flick, 2009). Quantitative research, on the other hand, controls the study of phenomena as much as possible. Those researches could be executed without intervening of the researcher, excluding reflexivity of the researcher.

### 3.3 Qualitative data collection method

To answer the research questions, data about all of the relevant CRM efforts are collected. This study uses semi-structured interviews as the source of evidence to collect all data for two main reasons. First, semi-structured interviews are highly useful for exploration of respondents' perceptions (Louise

barriball & While, 1994). As mentioned previously, the main aim during empirical research is to determine how CRM related efforts affect health institutions' behavior and discovering why certain efforts must receive priority over others. To answer these questions, perceptions of respondents are critical. This makes semi-structured interviews applicable for this study. Second, the structure of the interviews ensures that all respondents can be interviewed following a standardized plan (Louise barriball & While, 1994). Semi-structured interviews allow the researcher to follow a list of questions with the same meaning at all time, while being able to adjust words towards a respondent's vocabulary (Treece & Treece, 1986). Denzin (1989) states that keeping in mind the equivalence of meaning allows the researcher to standardize the semi-structured interview and make sure that all gathered data is comparable. Also, the analysis of twelve different CRM efforts asks for a tight, standardized schedule. Semi-structured interviews can offer this. To ensure that all interviews are conducted in a structured way and to improve the reliability of the study, an interview protocol is used (Yin, 2009). While keeping track of the standardized protocol, the semi-structured interview provides room for further exploration of certain topics and the discovery of unforeseen topics (Creswell, 2007).

#### *Interview protocol*

To effectively conduct semi-structured interviews, an interview protocol is predefined. This protocol safeguards the reliability of the study and can be found in Appendix A. The literature review identified multiple CRM efforts. Twelve of these efforts are considered relevant for empirical research. To assure that all of these CRM efforts are discussed, the semi-structured interviews followed a fixed protocol. The interview protocol starts with an introduction of the researcher and the research motivation. The introduction functions as a warming up for the participant which assists in building trust and stimulates the collection of important data (Jacob & Furgerson, 2012). After introducing the researcher, permission is asked to record the interview for later analysis, to which all of the interviewees agreed. After this, the protocol initiates the substantive questions.

First, easy to answer questions are asked before moving towards more difficult questions to improve the progress of the interview (Jacob & Furgerson, 2012). General questions are asked regarding customer relationship management to assess the interviewees' familiarity with the studied phenomenon. The researcher then attempts to let interviewees identify CRM efforts themselves by asking general, open-ended questions. These open-ended questions provide room for further discussion about identified CRM efforts. The protocol contains fixed subject specific follow-up questions for any of the identified CRM efforts. This ensures the interviewee follows the right track as intended by the researcher (Creswell, 2007). Furthermore, the principle of the semi-structured interview allowed the researcher to ask undefined follow-up questions to explore new subjects, or to redirect the interviewee if one does not answer the question being asked (Creswell, 2007).

After discussing the CRM efforts as identified by the interviewee, the remaining CRM efforts are evaluated. These contain fixed subject specific questions as mentioned above. To assure a smooth progress of the interview, questions are ordered from easy to more difficult questions (Jacob & Furgerson, 2012). However, the researcher remains free to change the order if the situation desires so. Furthermore, clear transitions between CRM efforts should be made where possible to keep control over the interview (Turner, 2010).

### *Unit of analysis*

Before starting the actual collection of data, the unit of analysis has to be determined. This enables the researcher to select relevant data and guide the analysis (Van Aken et al., 2012). The selection of an appropriate unit of analysis depends on the characteristics of the problem statement. In this study, the aim is to gain insights in the effect of CRM related efforts on customer acquisition, customer retention, and up-selling/cross-selling rates. As this particular study aims to provide these insights in principle for use by VisitU, the unit of analysis will be their potential customers. Therefore, health institutions are determined to be the unit of analysis. As an institution by itself cannot be interviewed to identify its perspectives, individual employees can be selected to be interviewed and compared (Van Aken et al., 2012).

### *Case selection*

An important step in case study research is to select competent cases to collect data from. The following paragraph describes the selection criteria that were used in order to assure decent case selection.

*Representativeness.* This study investigates the influence of CRM efforts on behavior of VisitU's potential customers. These potential customers are health institutions or departments, which regularly serve long stay patients. Current customers of VisitU would be the best cases to study to gain insights in their experiences. However, VisitU only serves a very small number of customers at this stage. Therefore, the studied cases represent the current customers where possible. These are supplemented by cases representative for the healthcare sector. To make sure the product is viable for customers, the institution should serve a large patient base. The initial and current aim of VisitU is to acquire hospitals as customers. However, this target group is deliberately excluded from the case study, to avoid conflicts of interest. Therefore, a selection of health institutions which are representative for VisitU's current target group is made to ensure appropriate results.

*Supplier relations.* The representative health institutions should have a structured purchasing process which has been established for at least several years, assuring experience in relations with suppliers. By sharing relevant information, an interviewee should be able to unknowingly identify dissatisfiers and/or satisfiers which may or may not influence their customer acquisition, customer retention, and up-selling/cross-selling. Ideally, the responsible should have multiple years of experience.

*Diversity.* To ensure generalizability and external validity, throughout (at least) the entire healthcare sector, diversity of the selected interviewees is considered important. During preparation of the interviews, three functions were identified to be interesting based on experience of VisitU's CEO: 1) purchasers, focusing on purchasing only, 2) managers, who among other things manage purchasing, and 3) innovation advisors, who are involved with applying and purchasing new technologies. The latter function appears to be relatively new and rare. For this reason, only two of the interviewees fulfill this function while both have little experience.

Respondents were then identified to collect data using semi-structured interviews. Guest, Bunce, and Johnson (2006) find that data saturation occurs after analyzing twelve interviews, stating that a sample of this size is sufficient. For this reason, twelve interviews were setup to be conducted for the

current study. Unfortunately, the eleventh interview was cancelled, leaving a sample of eleven respondents. However, no additional interviews were setup. The three interviews prior to this interview (8, 9, 10) did not lead to the identification of any new intelligence. According to Francis et al. (2010), conducting three interviews without identification of new information is considered an effective stopping criterion. Therefore, the sample size remains eleven. The interviewees, including their function and years of experience in their current function, are displayed in Table 4.

Interviewee	Function	Experience (in years)
1	Purchaser	5
2	Manager	9
3	Purchaser	9
4	Purchaser	10
5	Innovation advisor	2
6	Innovation advisor	1
7	Manager	6
8	Manager	8
9	Manager	17
10	Manager	4
11	Purchaser	18

**Table 4: Interviewee selection**

### 3.4 Qualitative method of analysis

The current study followed a method which is relatively similar to the thematic analysis method, which analyzes patterns, so-called ‘themes’, within data (Braun & Clarke, 2006). Thematic analysis starts by familiarizing with the data and identification of codes. After coding all data, themes are identified which overarch several different codes. Finally, the report is produced, where evidence for each theme is used to provide arguments (Braun & Clarke, 2006). However, this study has previously identified the relevant themes which were to be analyzed. Instead of identifying the themes based on codes, prior identified themes were used to identify sub-codes. For this matter, template analysis, which uses templates in thematic analysis of data, is considered best applicable (King, 2004; Miles & Huberman, 1994). First, template analysis enables the definition of a priori themes that relate to theoretical concepts (Brooks & King, 2012), which is the case in this study. CRM efforts as identified during literature review are now used as the themes for data analysis. These themes are tentative and may therefore be adjusted towards new findings. Next, template analysis allows the identification of further sub-codes from the interview data for each theme (Waring & Wainwright, 2008). After this, the results are reported, using a codebook involving all themes and (sub)codes (Miles & Huberman, 1994). This codebook is found in Appendix B. Furthermore, data was analyzed at

a latent level. Analyzing data at this level also takes into account the interviewees' expressions and underlying ideas which can be derived from their statements, instead of merely drawing conclusions from literal statements (Braun & Clarke, 2006).

#### Validity and reliability

Several sources (e.g., Van Aken et al., 2012; Yin, 2009) state that four tests are relevant in empirical research to assure validity and reliability: 1) construct validity makes sure that a measuring instrument measures what it is intended for (De Groot, 1969), 2) internal validity focuses on warranting of causal inferences (Yin, 2009), 3) external validity pays attention to the generalizability of the study (Van Aken et al., 2012), and 4) reliability of the study assures that repeating the same study leads to the same outcome (Van Aken et al., 2012; Yin, 2009). The applied tools to assure validity and reliability are now further elaborated.

First, the chain of evidence is an important tool to ensure construct validity (Yin, 2009). Using a database of interview transcripts makes sure that no original evidence is lost. This database can be used to maintain the chain of evidence throughout this study. Second, by building statements from initial interviews, comparing these statements to results of additional interviews, and revising these statements, both internal and external validity are guarded. In this study, argumentation for importance of each CRM effort follows this explanation building method when analyzing the codes which were assigned to each effort (Yin, 2009). Furthermore, an interview protocol is used to improve reliability during data collection, while an interview database leads to more reliability during analysis (Van Aken et al, 2012; Yin, 2009). Finally, the interviews were independently coded by a second person to assure inter-rater reliability (e.g., Van Aken et al., 2012). The results were then compared and showed 89% similarity. After discussion, the results were adjusted towards unanimous agreement.

## 4. Empirical research

Chapter four provides the results of the empirical research and the findings based on the results, and aims to answer the following research questions:

*RQ2: “Which CRM related efforts are considered dissatisfiers by healthcare organizations, resulting in decreased acquisition, retention, and up-selling/cross-selling rates, and why?”*

*RQ3: “Which CRM related efforts are considered satisfiers by healthcare organizations, resulting in increased acquisition, retention, and up-selling/cross-selling rates, and why?”*

The answer to RQ2 is provided in section 4.1, while RQ3 is answered in section 4.2. Furthermore, section 4.3 discusses some seemingly irrelevant efforts. Based on the findings in section 4.1 to 4.3, the following question is answered in 4.4:

*RQ4: “Which CRM related efforts require the highest relative priority in healthcare to optimize customer acquisition, customer retention, and up-selling/cross-selling?”*

Although this chapter focuses on offering uncontradicted arguments to present findings, contradictions were found in some occasions. To provide insight in responses of interviewees regarding the importance of CRM efforts, indications such as (5; 4; 2) are given after a statement. The first number depicts the amounts of interviewees that agreed with this statement. Neutral responses are displayed by the second number, while disagreeing responses are counted by the third number. Furthermore, quotes from one specific interviewees are inserted using quotes (“...”), while statement as made by multiple interviewees are displayed using an Italic font (*example*).

### 4.1 Dissatisfiers

This section discusses the identified dissatisfiers. A CRM effort can be considered a dissatisfier if insufficient performance or absence of the effort leads to dissatisfaction. This results in complaints and leads to negative effects on the desired CRM outcomes (Johnston, 1995). The dissatisfiers are considered most important and should receive the highest priority.

#### *Experience stability*

According to literature, enhanced stability of a product during consumption of this product leads to customer satisfaction (Mithas et al., 2005; Piccoli & Applegate, 2003) and trust (Payne & Frow, 2004). As a result, delivering a stable experience to customers increases customer acquisition, customer retention, and up-selling/cross-selling.

*Product stability.* Regarding the stability of the product itself, interviewees consider a functioning product a prerequisite (8; 0; 0). One interviewee states that “health institutions sometimes simply cannot function without certain products.” This leads to negative feelings about a product if it fails to function. Also, interviewees explain that a product *must function in a stable manner before entering*

a market to prevent bad experiences which could lead to a negative reputation, resulting in decreased acquisition, retention, and up-selling/cross-selling rates.

*Product malfunctions.* Interviewees who mention that they do sometimes experience the failure of products explain that their actions depend on how severe the consequences are (5; 0; 0). They do understand *the possibility of malfunction during a pilot phase*, as long as it works at the end of this phase when a product must be acquired or not. In case of minor malfunctions of an owned product, the interviewees describe that adequate response of a supplier, such as “repairing a product within 24 hours,” could *easily restore the institution’s trust in the supplier*. However, a malfunctioning product in combination with an inadequate response is described as *devastating for a supplier’s reputation and for future negotiations*. One interviewee for instance argues: “We are wondering why we should pay a monthly fee or pay in general if our product is not repaired after a month.” Furthermore, if a malfunction of a product leads to uncomfortable or hazardous situations for patients or employees, it will have *direct effects on product contracts*. From this, it is concluded that product malfunctions lead to decreased acquisition, retention, and up-selling/cross-selling rates.

*Service experience.* The stability of the service surrounding the product is sometimes considered more important than the stability of the product itself. The interviewees agree that a positive service experience is expected (7; 0; 0). The effects of failure to deliver such a service experience depend on severity of the incidents. Interviewees for instance state that *delayed deliveries will be mentioned as improvement points during evaluation*, expecting the situation to change afterwards. Others, however, claim that it might result in *cancelling of contracts if agreements were made regarding on time delivery due to importance of products*. Not recovering from incidents within a service package will eventually “lead to distrust, which has a negative influence on future negotiations,” an interviewee describes. This implies that service recovery interferes with experience stability. These responses suggest that an unstable service experience negatively affects all desired CRM outcomes when service recovery is not taken into account.

Institutions expect their products and surrounding services to be on point. Although in many cases a supplier will have a chance to recover itself, the lack of experience stability will result in deteriorating rates of the desired CRM outcomes if the possibility to recover is ignored. Therefore, ‘experience stability is considered a dissatisfier for customer acquisition, retention, and up-selling/cross-selling.

#### *Customer support*

The supplier should provide support to its customers if they fail to extract the promised product values. Literature previously identified customer support as a CRM effort which increases customer acquisition, customer retention, and up-selling/cross-selling through the experience of superior value (Grönroos, 2008)

*Implementation assistance.* When asked about supportive tasks a supplier should fulfill, multiple interviewees explain they require assistance in implementing a product (6; 0; 0). Simply buying a product and handing it over to employees on the floor does not lead to extraction of values. The interviewees identify the need for *explanation about how the product itself is used best*. Assistance dedicated to this need influence the CRM outcomes in a positive way. As stated, for example, by one



interviewee: “They showed us what else you can do with the robot besides all the basics, winning back my enthusiasm instantly.” This suggests that excluding such assistance negatively influences the desired CRM outcomes. Furthermore, several interviewees explain that assistance is required in changing behavior of employees. They state that *working days of employees in healthcare are full of routines from which they do not deviate by themselves*. As these routines did the job for years, the employees need to be convinced of the added value received by including a certain product to their daily behavior. Interviewees explain that *not being able to implement a product into the daily routine of employees is likely to result in a failure*. This leads to deteriorating rates on the desired CRM outcomes.

*Available for questions*. According to the interviewees, the supplier of a certain product should offer the possibility to employees who actually use the product to ask questions directly to the supplier (4; 0; 0). By doing this, *small problems are solved easy and quick*, while the exclusion of, for instance, a help line could lead to a not functioning product for a longer time and a negative evaluation a few months later. An interviewee describes the following: “Nothing is more annoying than being unable to reach the supplier when your product does not work and nobody knows how to repair it.” This suggests that it has negative consequences.

*Ordering assistance*. Furthermore, institutions require assistance in ordering (6; 0; 0). When a product is offered with optional features, the interviewees explain that *insight is desired under which circumstances these features should be purchased*. Discovering the need to acquire additional features after purchasing a product is considered a negative experience by these interviewees. One interviewee states: “If I buy such a product for several thousands of euros and I have to purchase an additional product to make it function, that’s not a good experience.” Also, interviewees expect that *orders are checked for outliers and suppliers should notify the institution if these are identified*. Finally, the interviewees need their suppliers to be flexible. It should be possible to return orders without resistance if an incorrect order is placed.

When health institutions purchase and use a certain product, it is considered key to provide customer support. Not being able to assist in 1) implementation, 2) changing behavior, 3) ordering, and 4) in case of questions leads to negative experience and the disability to extract value from a product. Therefore, ‘customer support’ is a dissatisfier, playing a role in all of the desired CRM outcomes.

#### *Interaction (frequency)*

Maintaining frequent interaction with the customer is considered relevant to identify the most important customer values (Payne & Frow, 2004). This allows a supplier to better offer superior value (Payne & Frow, 2004). Through this mechanism, higher interaction frequency is identified to positively influence customer acquisition, customer retention, and up-selling/cross-selling. Furthermore, CRM technology allows customers to better interact with the firm (Choy et al., 2002) and a decent channel selection positively influences interaction frequency (Moriarty & Spekman, 1984; Reinartz et al., 2005; Stewart & Kamins, 2002).

*Inefficiency.* When asked about frequency of interaction, interviewees explain their time is valuable and should not be spent in an inefficient manner (5; 0; 0). Due to the large number of suppliers an institution has, the respondents believe *their working days will be filled with meetings and calls if they allow suppliers to interact frequently.* An interviewee for instance argues: “I do not desire an update for every minor change.”

*Periodic meetings.* Suppliers ask for meetings or calls all the time, while in fact only scheduled periodic meetings are considered relevant by the institutions (11; 0; 0). One interviewee states, for instance, that he assumes “that something is wrong if there is more contact than the scheduled periodic meetings.” This suggests that higher interaction frequency is, at least for B2B suppliers, considered irrelevant. Furthermore, some interviewees explain that these periodic meetings *should be scheduled more frequently during pilots and the implementation phase.* They state that *the meeting frequency should be fixed in contracts.*

*Evaluation.* Although the importance of interaction frequency is rejected by the interviewees, they do value interaction. Periodic meetings every three months or year are believed to be necessary to assess their supplier’s performance and possibly renegotiate contracts (11; 0; 0). The moments of contact are necessary to ensure a supplier’s quality, evaluating *quality in general, price/quality ratio, and compliance to agreements.* Furthermore, the evaluation meeting is considered a good moment to raise attention to minor hiccups. These meetings will take place, whether the assessment is positive or negative. Interviewees state that in case of a negative assessment, “recovery is expected” or “contracts are renegotiated.” As the interviewees desire to meet physically every period, technology is not involved as previously suggested during the literature review. On the other hand, a face-to-face meeting is stated as the best applicable channel type.

The interviewees unanimously agree that higher interaction frequency does not influence customer acquisition, customer retention, or up-selling/cross-selling. For this reason, ‘interaction frequency’ is marked as irrelevant. However, interaction by itself is concluded to play a role. Evaluation meetings are a necessity to avoid decreasing rates of the desired CRM outcomes in case of negative assessments. On the other hand, a positive assessment is considered normal and therefore does not positively affect the CRM outcomes. Therefore, ‘interaction’ is considered a dissatisfier for customer acquisition, retention, and up-selling/cross-selling. Furthermore, ‘CRM technology’ is considered irrelevant for ‘interaction’ as interviewees want evaluation meetings to be face-to-face. This identifies ‘channel type’ as an influencer of interaction.

#### *Service recovery*

The supplier should handle complaints effectively to make sure customer satisfaction is retained (Zineldin, 2006). Also, using CRM technology for personal messaging assists in service recovery (Chen & Ching, 2004; Richards & Jones, 2008). Both articles describe that service recovery positively affects customer acquisition, customer retention, and up-selling/cross-selling.

As mentioned previously during the discussion of experience stability, service recovery is considered an important effort within customer relationship management. In several situations, the experience of a product and its corresponding service is allowed to go under its standard, as long as the supplier

recovers itself. This already suggests that the exclusion of service recovery will lead to declining rates of the desired CRM outcomes.

*Fast recovery.* Above all, the interviewees unanimously agree that the service recovery should be as fast as possible (11; 0; 0). Mistakes or malfunctions by itself will not be devastating if the supplier recovers itself very fast. Several interviewees explain that these mistakes or malfunctions are often *of minor influence and can be postponed to a general evaluation meeting*. However, they do still expect the supplier to undertake actions to restore its service. By acting quick, interviewees state that “further measures can be avoided.” Recovering slowly is considered *an important flaw several suppliers have, leading to negative feelings*. This flaw could result in *negative conclusions after a pilot or to contract termination*. This implies that it has negative consequences for all desired CRM outcomes.

*Trusted supplier.* Interviewees also mention that institutions have more patience with a trusted supplier to restore their service (3; 0; 0). They state that these suppliers are more likely to get a second chance, often *because trusted suppliers play an important role in the institution’s processes*.

*Contact person.* Furthermore, several interviewees describe a preference for a specific contact person to report to when service recovery is necessary (4; 0; 0). They describe their preference of *being able to directly contact this specific person*. Also, this contact person will *better understand the situation of a certain institution* and “can act quickly to avoid being sent from pillar to post,” interviewees explain. One interviewee especially states that “suppliers should already take care of this very carefully during a pilot phase.” When asked about value of personalized messages sent to assist in service recovery, interviewees explain that a message by the assigned contact person is considered a better option. This contributes more to the main goal: fast recovery. This implies that service recovery is not necessarily improved by CRM technology.

If products malfunction occasionally, or if mistakes are sometimes made in a supplier’s service, it is not necessarily devastating for the acquisition, retention, or up-selling/cross-selling rates. They do have negative results on these rates, but it is the lacking or poor service recovery that is considered destructive for the desired CRM outcomes. Therefore, ‘service recovery’ is considered a dissatisfier for customer acquisition, retention, and up-selling/cross-selling. However, using ‘CRM technology’ is not considered a relevant assistant in service recovery.

#### *Customized products/services*

Literature identifies product/service customization to assist in offering superior value by focusing on specific needs of each customer (Chen & Ching, 2004; Richards & Jones, 2008). Therefore, customized products/services are considered to positively affect customer acquisition, customer retention, and up-selling/cross-selling. Also, CRM technology (Chen & Ching, 2004; Sabri, 2003) allows a supplier to act towards customer knowledge which, together with an appropriate selection of ‘channel type’ (e.g., Moriarty & Spekman, 1984), increases the ability to customize products and services. Due to respondents’ deviating perceptions regarding the importance of customized products and services, these are discussed separately. This section focuses on customized services, while the effort ‘customized products’ is discussed in section 4.2.

*Customized services.* The interviewees describe a personalized service package surrounding a product as a must-have (9; 2; 0). It is stated that *options must be provided during negotiations to design a tailor-made service package*. Interviewees desire the use of face-to-face meetings *to express their needs and to learn about all customization options*. This implies that face-to-face is the best communication channel for service customization. Also, interviewees explain that useful technology is used by current suppliers to, for instance, schedule deliveries at a specific moment, using *a digital platform to select a desired delivery time, fitting to the schedule of both the institution and the supplier*. This suggests that application of CRM technology assists to better customize services. Furthermore, interviewees describe that optional decisions *should be fixed in contracts*. The interviewees have two main reasons to desire a customized service: 1) to fit the service to its own capabilities (6; 0; 0), and 2) to lower the total price of a product and its corresponding service (6; 0; 0).

*Own capabilities.* First, interviewees state that *institutions sometimes developed certain own capabilities that could replace a service option*. The investments to develop such capabilities are valued and therefore the institutions do not wish to include such an option. Being forced to pay for something which is considered an “unnecessary, additional feature” has a negative influence on *purchasing intentions, but also on future negotiations*.

*Lowering price.* Second, interviewees believe that service and its price are related to each other (6; 0; 0). An interviewee for instance mentions that “service and its price are strongly coherent.” The interviewees agree that prices should improve when service options are not included. They believe their interest in a supplier’s product will decline if this is not the case. They state that *not choosing for a certain option is in many occasions directly related to the desire to lower prices*.

From this, it follows that service customization should take place at all time. Mandatory inclusion of unwanted options, and thus excluding service customization, is very likely to lead to decreasing rates of customer acquisition, retention, and up-selling/cross-selling. Therefore, ‘customized service’ is considered a dissatisfier for all desired CRM outcomes. To assist in customizing services, both appropriate selection of ‘channel type’ and improved ‘CRM technology’ are identified as relevant.

#### *Improved pricing*

Literature suggests that suppliers should determine a customized price towards each customer’s specific demands. Improved pricing is identified to increase customer acquisition, customer retention, and up-selling/cross-selling (Rust et al., 2001). Furthermore, CRM technology is identified to act towards customer knowledge. It assists in determining the costs for each individual customer and in adjusting the price to the customers’ demand characteristics (Buttle, 2004; Rust et al., 2001).

*Quality/price.* The interviewees agree that product and service quality is considered more important than the price paid for these products and services (9; 0; 0). However, if quality of suppliers is of a comparable level, the price is “critical in decision making of institutions,” as health institutions have to watch their budget. One interviewee states that *both new and existing contracts should be*

*renegotiated if another supplier can offer the same for a better price.* This implies that improved pricing should be included in CRM for all desired outcomes.

*Large demand.* Also, institutions expect to pay less per product if their demand is larger (4; 0; 0). The interviewees state that a supplier must be reconsidered if this is not the case. An interviewee describes that “it would be weird to see that small institutions ordering for €1,000 pay the same per product as we do when placing orders of €400,000,” and explains that software is available to do these calculations. Furthermore, several interviewees explain that *an important reason to purchase standardized products is to keep expenses to a minimum*, suggesting that improved pricing is critical.

*Service requirements.* The institutions’ service requirements are also identified to play a major role in improved pricing (6; 0; 0). Interviewees state that *a list of additional options should be provided by the supplier*. If an institution can avoid such an option, prices should be improved. The interviewees agree that *prices should lower in this case*. They believe their interest in a supplier’s product *will decline if this is not the case*. On the other hand, an interviewee also describes he is “willing to pay more if it offers him more privileges.”

Although quality is mentioned to be more important than price, the price plays a critical role in decision making of health institutions. Since interviewees are inclined to reconsider their supplier if prices are not customized towards specific demands, ‘improved pricing’ is considered a dissatisfier for all desired CRM outcomes. Also, ‘CRM technology’ is identified as a tool to improve pricing.

#### *Information flow*

When consistent (product) information flows across several channels, customers experience more convenience. According to Richards and Jones (2008) improved ‘information flow’ leads to increased customer retention and acquisition, and stimulates up-selling/cross-selling. They also find that improved CRM technology positively influences the information flow.

*Unambiguous information.* Interviewees agree that information about products and services should be unambiguous (6; 0; 0). It is for instance raised that *unambiguous information is very important in all situations, and ambiguous information leads to dissatisfaction*. This implies that ambiguous information leads to decreased rates on all of the desired outcomes. Many interviewees have experienced the use of multiple contact persons during their acquisition process or for troubleshooting, all sharing information in a different way. In some occasions this led to haziness of what exactly is offered as a product or solution. One interviewee proposed a solution to avoid ambiguous information: “information should also be digitally available, to share it with internal customers while information remains unambiguous,” implying that specialized technology is considered important to improve the information flow.

*Contact person.* Another preference to assure a consistent information flow as identified by interviewees is the use of one specific contact person (7; 0; 0). The interviewees want to keep this specific contact person in close range to quickly resolve problems. When contact with a supplier is needed, an interviewee mentions that this contact person “understands the situation and saves me time of explaining the situation first.” The contact person should be able to *directly reach the*

*developer if necessary*, as interviewees desire quick resolutions. As a fixed contact person is often mentioned to be a necessity when problems occur, it implies that not providing a fixed contact person leads to decreased retention and up-selling/cross-selling rates. Furthermore, interviewees explain that *contact with suppliers takes place more and more decentralized*. They experience the need for a fixed contact person to avoid double orders for example.

*Relevant information*. Interviewees state that it is important for a supplier to distinguish relevant information from irrelevant information before sharing it with them as (potential) customers (7; 0; 0). They describe that, during the acquisition process, accurate information should be provided about *the product's offer and its added values, the service offering, and the price*. This is considered a prerequisite to possibly gain the attention of institutions. Also, during negotiations, it is important to *share information about minimum requirements* to avoid surprises after the acquisition phase. One interviewee states for instance: "I only heard about the additional product months later, which in our case was a necessity to make sure the VR livestream functioned. How could it have happened that we were not informed beforehand?" This interviewee clearly expresses dissatisfaction about the fact that this information was not shared. This suggests that not paying attention to information flow decreases the desired CRM outcomes. Furthermore, interviewees desire *to be informed about new developments regarding an owned product*.

*Inform the right target*. Finally, the interviewees explain that information should be shared with the right person or department (6; 0; 0). When it comes to offering products, interviewees state that *executive departments of health institutions are often more interested in such products than the purchasing department*. This results in negotiations by suppliers with these executive departments. However, when decisions have to be made, the purchasing department plays an important role and therefore need to be informed. If this has not happened during negotiations, several interviewees of purchasing departments state that *it may have negative consequences towards the decisions to be made*. Furthermore, interviewees state that *not providing information to the right target causes inefficient use of time*, which leads to dissatisfaction. One interviewee provides an example: "My assistant is currently still looking for this specific additional product, while you just told me it has already been purchased elsewhere."

Based on the fact that interviewees consider unambiguous information, a fixed contact person, relevant information, and informing the right targets as prerequisites, 'information flow' is a dissatisfier. Several examples above have shown that excluding this CRM effort leads to decreased acquisition, retention, and up-selling/cross-selling rates. Also, CRM technology is identified to play an important assisting role in improving the information flow.

## **4.2 Satisfiers**

This section discusses the identified satisfiers. It is stated that satisfiers lead to a strong feeling of satisfaction if performance on the specific effort is extraordinary. Typical performance or absence does not necessarily result in negative effects (Johnston, 1995). The satisfiers are considered fairly important and should receive moderate priority.

### *Customer involvement*

During academic research it was found that, through co-creation with potential customers, firms will better be able to develop a product delivering superior values. For this reason, it is believed that customer involvement in the development process of products improves customer acquisition, customer retention, and up-selling/cross-selling rates.

*Proven technology.* All interviewees admit that innovation is important to improve the healthcare sector (11; 0; 0). However, they remain cautious when it comes to getting involved in actual product development. Healthcare institutions often find it difficult to design an innovative strategy. Stating their *budget is based on public money*, and their *main focus should be to take care of patients*, institutions would rather invest in actual healthcare. Although acknowledging the importance of innovation, the interviewees show a strong attraction to proven technology (8; 3; 0). Interviewees consider proven technology a *safer choice*, as they know what values the product will generate.

*Influence products.* Even though the interviewees express their preference for proven technology, a vast majority is prepared to get involved in product development (10; 0; 1). They do for instance *understand that some technologies cannot be proven without the help of institutions*. The interviewees admit that their institution will generally only act as a co-creator if a certain need is experienced by themselves, rather than doing it for the greater good of the healthcare sector (10; 0; 0). These institutions merely get involved with products to which they experience a need for (further) development themselves. If the institutions decide to co-create a certain product, they do so *to influence the product to their own specific behavior and needs* and as such to improve value a product delivers. An interviewee states: "I can idealize a product before actually buying it." This suggests that a product supplier who puts a lot of effort in involving its potential customers identify needs which may remain hidden at first. This leads to superior values and thus increases the three desired outcomes. Furthermore, the interviewees state that, when deciding to get involved to improve the product, *the institution has the intention to purchase the product once finished and to make more investments on the long term* (5; 1; 0). This implies that customer involvement does indeed improve customer acquisition, customer retention, and up-selling/cross-selling rates.

*Feasibility.* However, these institutions are not easily convinced to get involved. In deciding to get involved in product development or not, institutions expect well elaborated information regarding the prospective value a product will generate (5; 0; 0). Several interviewees explain that *a business case is usually made in this situation to decide whether it is worth the investment of getting involved*. Clear and convincing information of the potential added value of a new product is regarded a necessity in this case. Several interviewees state that those institutions that do get involved with product development, do so rarely (7; 0; 3). Therefore, it is considered an important task to pay special attention to providing this information.

As institutions get involved in product development to improve a certain product and increase the product's value, well implemented customer involvement is indeed believed to increase customer acquisition, customer retention, and up-selling/cross-selling. No interviewee states that being

involved in product development is a prerequisite or suggests that exclusion from product development leads to decreased value offered by a product or decreased rates on the three desired outcomes. From this, it follows that customer involvement is considered a satisfier, and relevant for customer acquisition, retention, and up-selling/cross-selling.

#### *Customized products/services*

Product/service customization is explained to influence customer acquisition, retention, and up-selling/cross-selling as it plays a role in offering superior value (Chen & Ching, 2004; Richards & Jones, 2008). Also, 'CRM technology' (Chen & Ching, 2004; Sabri, 2003) and 'channel type' (e.g., Moriarty & Spekman, 1984) are identified to assist product/service customization. The CRM effort 'customized products' is now further discussed, while customized service was previously identified as a dissatisfier.

*Customized products.* The interviewees emphasize that the healthcare sector will only purchase customized products if necessary (10; 0; 0). Generally, *health institutions aim for the standardized product that fits best to their needs*. The respondents explain that special occasions do require customized products, to, for instance, *provide decent quality of life to a certain patient*. Interviewees explain that *their needs for a customized product are generally expressed during initial meetings*. This indicates that such face-to-face meetings should be used as a communication channel by suppliers to gain knowledge for customization. However, customized products are not a general demand for two main reasons: vulnerability and price.

*Vulnerability.* Interviewees find that an institution becomes vulnerable whenever customized products are required (4; 0; 0). The interviewees describe that these products are *often offered by only one or a few specific suppliers as they apply more sophisticated technologies than other suppliers*. This implies that a supplier's possibility to provide customized products leads to increased customer acquisition rates, although it often requires specialized technology to do so effectively. Also, interviewees explain that *institutions get tied to a specific supplier*. This leads to *decreased power in negotiations*. This suggests that a customized product stimulates a lock-in effect, leading to increased customer retention and up-selling/cross-selling rates. Furthermore, customized products will eventually become unusable if for instance *a specific patient no longer requires a special product, leading to waste of investment*. Finally, one interviewee states that "customization of products which are critical to health leads to increased probability of mistakes." These arguments point out that interviewees do not consider customized products a prerequisite.

*Price.* The respondents believe that tailor-made products often come with a higher price than general products (4; 0; 0), which is not wanted. In line with this, several respondents claim that *purchasing standardized products in high quantity allows lower prices*. This also suggests that customization of products is avoided where possible.

To conclude, the interviewees find that customization of products is not a necessity. In fact, the customized products are avoided as much as possible. Though, specific situations may ask for tailor-made products, suggesting that offering the possibility to customize products increases the desired



CRM outcomes. Therefore, customizing products is considered a satisfier for all desired CRM outcomes. Also, 'channel type' and 'CRM technology' are found to assist in customizing products.

#### *Personal relationships*

Stronger personal relationships between customers and service employees increase switching barriers (Berry & Parasuraman, 1991) and trust (Kale et al., 2000). Following from this, it is suggested that personal relationships influence all three of the desired outcomes (e.g., Berry & Parasuraman, 1991; Kale et al., 2000; Moriarty & Spekman, 1984). Furthermore, firms can apply technological CRM solutions (Choy et al., 2002) and appropriate channel types (e.g., Moriarty & Spekman, 1984) to better build personal relationships

*Objectiveness.* Interviewees explain that objectiveness in their decision making process is highly valued (5; 0; 0). They state that *business contracts should not be influenced in any way by personal feelings*. If a supplier gets to offer its product using its own personal network, the related employees should be separated from the decision making process to avoid subjectivity.

*Unnecessary efforts.* Several respondents mention that they have experienced efforts by suppliers to build a personal relationship, for instance *by offering dinner or a golf trip*. Such efforts during the purchasing process, but also afterwards, are considered inappropriate and are more likely to have an opposite effect (4; 0; 0). One interviewee states: "the fact that they can invite me to a golfing weekend means that I am currently paying too much." The interviewees explain that these efforts lead to distrust.

*Personal network.* The use of an existing personal network, however, is believed to have a positive effect on the acquisition rate (6; 0; 0). Interviewees explain that suppliers *encountered during an exhibition or at work*, have an increased probability of being invited to present a product and thus to sell it. This suggests that an appropriate selection of a communication channel to build personal networks increase customer acquisition rates. However, when asked about CRM technology in this matter, interviewees do not recognize its relevance. Interviewees describe that *employees can always introduce a product supplier, but decisions will remain objective*. This implies that personal networks do not affect customer retention and up-selling/cross-selling rates. Furthermore, the interviewees of VisitU's current customers believe that use of a personal network has influenced the acquisition process (3; 0; 0). One of VisitU's current customers explains for instance that "if dr. Van Rooijen did not work here, it would have been much harder for him to offer and sell his product here."

From this analysis, it follows that obvious efforts to build a relationship on a personal level are rejected, implying that this type of CRM effort is irrelevant. However, the use of a network is mentioned to be important and is believed to increase acquisition rates. As using a personal network increases the acquisition rate, personal relationships is considered a satisfier, but merely for customer acquisition. Also, an appropriate 'channel type' is believed to assist in building personal relationships, while CRM technology is considered irrelevant.

### *Customer targeting*

Literature identified customer targeting to have an influence on customer acquisition (Bodapati & Gupta, 2004) and customer retention (Thomas et al., 2004). Furthermore, using 'CRM technology' is believed to assist in developing an efficient targeting strategy (Thomas et al., 2004).

*Best targets.* Interviewees agree that a supplier should focus on its best potential customers (4; 0; 0). One interviewee of VisitU's current customers wonders whether the current children department really experience the need for a VR livestream. He states that "children in this hospital have visitors all day long." The interviewees argue that institutions with focus on other areas such as geriatrics and academic hospitals, might *extract more value from the product and buy more livestreaming products*. This results in more profit. This suggests that effective customer targeting does influence customer acquisition and retention, but also the up-selling/cross-selling rate. The interviewees do, however, not recognize the need for CRM technology in discovering which institutions are considered the best targets for a supplier.

*Extra effort.* The interviewees admit that making extra investments and putting extra effort in the overall experience prior to buying products may influence their purchasing decision (5; 0; 0). Interviewees state that *free pilots during the development phase and positive impressions regarding service* have previously affected their purchasing behavior. This implies that it affects customer acquisition rates. However, interviewees explain that *a significant deterioration of experience after purchasing a product may have an adverse effect on future decisions*.

*Attract better targets.* Interviewees believe that the extra efforts as stated above are often made to convince better targets, such as larger institutions, to buy products (5; 0; 0). An interviewee explains that suppliers are *inclined to lower their prices because these institutions can offer more profit on the long term*. Another interviewee provides an example of a startup's acting: "they offer their first product for free, making no profit at all, and then use our organization to grow into the market." This suggests that acquisition rates will grow after signing larger institutions.

Interviewees explain that they believe that a focus on better target groups leads to more customers, and that putting extra effort in signing large institutions will eventually also increase customer acquisition rates. Therefore, 'customer targeting' is considered a satisfier, not only to increase customer acquisition and retention, but also for up-selling/cross-selling. Furthermore, CRM technology is considered irrelevant for this effort.

### **4.3 Other efforts**

This section discusses the remaining CRM efforts. These efforts are considered least important and should not receive any form of priority.

#### *Marketing actions*

According to Rust et al. (2004), resources allocated to marketing actions improve customer acquisition and retention. From this, it is concluded that better focused 'marketing actions' affect customer acquisition and retention rates. Also, improved 'CRM technology' (Thomas et al., 2004) and

improved selection of 'channel type' (Venkatesan & Kumar, 2004) are found to assist in properly assigning marketing actions.

*Trusted suppliers.* Interviewees explain that *the larger part of its products come from trusted suppliers with whom they made price agreements* (4; 0; 0). They claim not to be interested in or influenced by marketing actions and state that *special offers of irrelevant products by trusted suppliers are more likely to have an adverse effect*. Furthermore, *a sale or other marketing related actions are nice as an extra provided by the supplier*, but do not influence any of the desired CRM outcomes.

*Actions to existent need.* When health institutions experience marketing actions towards an existent need, interviewees are inclined to say that they are not influenced in their decision making (3; 0; 0). Interviewees explain that *when this marketing action is ignored, the supplier should still be evaluated as the best option before signing or extending a contract*. An interviewee admits that these marketing actions are "nice to have on top of the offer when you have decided already." Furthermore, an interviewee describes that incidentally, individual employees react to certain actions for small purchases. However, generally these incidents do not have any effect on future purchasing.

*Actions to nonexistent need.* Interviewees state that marketing actions towards a nonexistent need are experienced as unprofessional (4; 0; 0). They agree that health institutions *do not buy anything impulsively*. An interviewee mentions the following: "Those actions are not interesting for us at all. It would mean that a marketing action creates a new, previously nonexistent need for us. I believe that suppliers should approach us in a more serious manner." Furthermore, when a website is set up to order online, *it should not intend to sell anything else than an institution's fixed assortment*. This suggests that such marketing actions have no effect on the desired outcomes.

*Aggressive marketing.* The interviewees, as previously made clear, see marketing actions as unnecessary, but consider this part of business relations. However, when it comes to aggressive marketing, the interviewees agree that it is likely to have negative effects on the desired outcomes (5; 0; 0). The interviewees state that *emails with advertisements can be easily deleted*, while being called is considered *an actual disturbance of daily routines*. Using these actions, the suppliers "attempt to create the feeling of a certain need," which is not actually experienced. This is considered unprofessional in a B2B market. One interviewee states: "As soon as an employee checks their website, they are seduced to buy items by free coupons, reductions and that kind of things. They approach business clients as private clients. That is not right, and I hate it." This implies a negative effect of marketing actions. Additionally, an interviewee states that *a product should sell itself*, rather than the marketing actions designed around it.

From this analysis, it is found that institutions frequently deal with trusted suppliers, are not influenced by marketing actions towards both existent and nonexistent needs, and experience an aversion from aggressive marketing. The CRM effort 'marketing actions' is considered to have either no effect, or an adverse effect on the desired CRM outcomes. Therefore, 'marketing actions' should not receive any form of priority. This also leads to irrelevance for its indirect influencers.

### *Personalized marketing*

By personalizing marketing messages, an adequate marketing response can be designed towards each customer's individualized demand (Richards & Jones, 2008; Sheth et al., 2000). Richards & Jones (2008) explain that this type of customization is highly appreciated by customers. This results in better performance on customer acquisition, customer retention, and up-selling/cross-selling. Also, specialized CRM technology assists in designing personalized marketing messages for each customer (Chen & Ching, 2004; Sabri, 2003).

*Trusted supplier.* Personalized marketing is more or less comparable to marketing actions. As personalized marketing tries to focus on marketing actions towards existent customer needs, it is considered a part of marketing actions. As described in the analysis of marketing actions, interviewees explain that *the larger part of its products come from trusted suppliers with whom they made price agreements* (4; 0; 0). They are not interested anything else then what is stated in their contracts. When it comes to personalized marketing, interviewees state that *trusted suppliers should not be spamming us when they believe a need for a product has been detected*. This suggests that personalized marketing is not considered an asset.

*Information distribution.* The personalized marketing messages are often accepted, as interviewees see these messages as a type of information distribution (3; 0; 0). An interviewee for instance states: "We want to receive impulses from all possible channels to be informed." However, personalized marketing by itself is not believed to affect the desired outcomes. Interviewees explain that *institutions get on the market themselves when they need something*.

*Seduction to buy more.* Interviewees describe that institutions are frequently seduced by suppliers to buy more than they initially wish to buy (4; 0; 0). During negotiations, for instance, *potential suppliers get to know the needs of an institution and aims to sell additional products*. In another example, an interviewee describes that *employees receive special offers based on what they searched for in the assortment of a supplier*. This aggressive type of personalized marketing towards identified needs is explained to be *a real no go*.

Interviewees believe that trusted suppliers should focus on what is stated in their contract, and do not desire to be seduced to buy more products. The CRM effort 'personalized marketing' is considered to have no effect on the any of the desired CRM outcomes. Therefore, 'personalized marketing' should not receive any form of priority. This also leads to irrelevance for its indirect influencers.

## **4.4 Design principles**

This section provides design principles, which aim to offer actionable interventions, summarizing the results. The design principles follow CIMO-logic, and include context, intervention, mechanism, and outcome (van Aken et al., 2012). These principles were also discussed with the VisitU CEO to assess the feasibility of the initial steps which are to be made.

### *Dissatisfiers*

Three principles are designed to include all dissatisfiers as identified in this chapter, assigning high priority to these CRM efforts. These are now further elaborated.

*Experience.* During the interviews, interviewees have described the relevance of experience quality. Four CRM efforts, which all focus on this subject, were identified to be dissatisfiers: 1) Experience stability, 2) customer support, 3) interaction, and 4) service recovery. These efforts influence all of the desired CRM outcomes. First, both product and service experience should be stable in principle. Second, customers should have the ability to call in support if they do not succeed to extract value from a product. Next, during face-to-face evaluation meetings (interaction), the experience is evaluated. If the customer's experience is insufficient, service recovery should take place as soon as possible to recover the experience.

Principle 1: If you are to sell products in a healthcare B2B market (C), assign high priority to include the CRM efforts experience stability, customer support, interaction, and service recovery (I), to assure a decent customer experience (M), protecting a supplier from decreased acquisition, retention, and up-selling/cross-selling rates (O).

*Customization.* The interviewees have displayed the importance of customizing features surrounding a product. Two CRM efforts within this subject, improved pricing and customized services, were found to be dissatisfiers for all desired outcomes. First, interviewees described their desire for a service designed towards their specific needs and identified communication channels and CRM technology as important assistants. Furthermore, institutions expect that their price is adjusted towards their demand and CRM technology is identified as a useful tool to do this.

Principle 2: If you are to sell products in a healthcare B2B market (C), assign high priority to include the CRM efforts customized services and improved pricing (I), to design features surrounding a product towards specific customer needs (M), protecting a supplier from decreased acquisition, retention, and up-selling/cross-selling rates (O).

*Information flow.* Interviewees have explained the relevance of accurate information. The CRM effort information flow focuses on this relevance and was identified to influence all desired CRM outcomes. Interviewees express the desire for relevant, unambiguous information, provided to the right target(s). Also, they identify CRM technology, assuring access to digital information, as an important assistant in information flow.

Principle 3: If you are to sell products in a healthcare B2B market (C), assign high priority to include the CRM effort information flow (I), to assure that the right information is provided to the right targets (M), protecting a supplier from decreased acquisition, retention, and up-selling/cross-selling rates (O).

### *Satisfiers*

Three principles are designed to include all satisfiers as identified in this chapter, assigning moderate priority to these CRM efforts. These are now further elaborated.

*Product's values.* During the interviews, mediocre importance was assigned towards improving values of the offered product itself. Two CRM efforts that focuses on these values, customer involvement and product customization, were identified as satisfiers for all desired outcomes. First, interviewees explain that institutions do sometimes want to get involved with product development. Second, the interviewees describe that product customization is desired in some occasions, to which CRM technology and communication channels can assist. However, neither of these efforts are considered to be a prerequisite, but function as an effort to increase rates.

Principle 4: If you are to sell products in a healthcare B2B market (C), assign moderate priority to include the CRM efforts customer involvement and customized products (I), to improve the product value a customer receives (M), to increase acquisition, retention, and up-selling/cross-selling rates (O).

*Networks.* As interviewees explain that a supplier should use its network to increase the customer acquisition rate, the CRM effort that aims to build personal relationship was identified as a satisfier. This denies the findings as stated by several authors, who suggest that personal relationships influence all desired outcomes (e.g. Berry & Parasuraman, 1991; Kale et al., 2000; Moriarty & Spekman, 1984). Using contacts within the healthcare sector is stated several times as one of the best strategies to offer products to institutions. However, after offering a product, decisions are made objectively. As gathering contacts at work or during exhibitions is explained to be most effective, communication channels are identified to be an important assistor.

Principle 5: If you are to sell products in a healthcare B2B market (C), assign moderate priority to include the CRM effort personal relationships (I), to obtain invitation to offer a product using personal networks (M), increasing customer acquisition rates (O).

*Targeting.* The interviews have exposed the relevance of focusing on the institutions that provide most potential for future revenue. The CRM effort customer targeting, which is dedicated to this focus, is identified as a satisfier for all desired outcomes. Whereas the literature review only found influence for customer acquisition and customer retention, the interviewees explain that customer targeting also influences up-selling/cross-selling. Although it is not considered necessary, interviewees state that it is a wise step for a supplier to focus on these institutions to increase their revenue.

Principle 6: If you are to sell products in a healthcare B2B market (C), assign moderate priority to include the CRM effort customer targeting (I), to attract customers that extract more value from a product than others do (M), increasing acquisition, retention, and up-selling/cross-selling rates (O).

#### *Irrelevant*

One principle is designed to include the irrelevant CRM efforts as identified in this chapter, not assigning any form of priority to these CRM efforts. This is now further elaborated.

*Marketing.* The interviewees have expressed that marketing in the B2B healthcare sector is unnecessary. The involved CRM efforts, marketing actions and personalized marketing, are therefore found to be irrelevant. Both CRM efforts received negative feedback as they attempt to create previously nonexistent needs. Interviewees state that this is not the way to go in the healthcare sector.

Principle 7: If you are to sell products in a healthcare B2B market (C), do not prioritize the CRM efforts marketing actions and personalized marketing (I), as institutions believe they are either not or negatively influenced by marketing (M), to avoid investments having no effect, or a negative effect, on acquisition, retention, and/or up-selling/cross-selling rates (O).

All design principles as developed in this section are summarized in Table 5.

Principle	Context	Intervention	Mechanism	Outcome
<b><i>Dissatisfiers</i></b>				
1	Selling products in a healthcare B2B market	High priority to include 'experience stability', 'customer support', 'interaction', and 'service recovery'	Assure a decent customer experience	Protect a supplier from decreased acquisition, retention, and up-selling/cross-selling rates.
2	Selling products in a healthcare B2B market	High priority to include 'customized services' and 'improved pricing'	Design features surrounding a product towards specific customer needs	Protect a supplier from decreased acquisition, retention, and up-selling/cross-selling rates.
3	Selling products in a healthcare B2B market	High priority to include 'information flow'	Assure that right information is provided to the right targets	Protect a supplier from decreased acquisition, retention, and up-selling/cross-selling rates.
<b><i>Satisfiers</i></b>				
4	Selling products in a healthcare B2B market	Moderate priority to include 'customer involvement' and 'customized products'	Improve the product value as received by customers	Increase acquisition, retention, and up-selling/cross-selling rates
5	Selling products in a healthcare B2B market	Moderate priority to include 'personal relationships'	Obtaining invitations to offer a product using personal networks	Increase acquisition rates
6	Selling products in a healthcare B2B market	Moderate priority to include 'customer targeting'	Attract customers who extract more value from a product than other customers	Increase acquisition, retention, and up-selling/cross-selling rates
<b><i>Other</i></b>				
7	Selling products in a healthcare B2B market	No priority to include 'marketing actions' and 'personalized marketing'	Institutions are not or negatively influenced by marketing	Avoid investments having no effect, or a negative effect, on acquisition, retention, and/or up-selling/cross-selling rates

**Table 5: Oversight of design principles**

## Conclusions, implications, limitations, and further research

This chapter provides the conclusions which are drawn on the research questions (5.1). After these conclusions, implications are made (5.2), and limitations and directions for further research are identified (5.3).

### 5.1 Conclusions

This section provides concluding answers to research questions RQ1 to RQ4, before drawing conclusions on the main research question.

#### *Research questions*

Four research questions were posed in the introduction of this paper. The insights are now summarized.

*RQ1: “Which effects do different CRM efforts have on customer acquisition, customer retention, and up-selling/cross-selling?”*

To answer RQ1, a list of all types of CRM related efforts was a prerequisite, requiring a literature review. The initial goal of the literature review in Chapter 2 was to identify CRM related efforts, followed by reviewing the effects of the CRM related efforts on the desired outcomes. Thirteen directly influencing CRM efforts and three indirectly influencing CRM efforts were identified to have effect on one or more of the desired CRM outcomes. However, since one of the directly influencing CRM efforts, ‘up-selling/cross-selling’, was in fact one of the desired CRM outcomes, it was not included for further research. Most of the CRM efforts affect all three of the desired outcomes. Ten directly influencing CRM efforts have a positive effect on acquisition, retention, and up-selling/cross-selling: ‘customer involvement’, ‘customer support’, ‘experience stability’, ‘service recovery’, ‘interaction frequency’, ‘improved pricing’, ‘personalized marketing’, ‘customized products/services’, ‘personal relationship’, and ‘information flow’ influence all of the desired outcomes according to literature. Only two of the directly influencing CRM efforts, ‘marketing actions’ and ‘customer targeting’, merely increase customer acquisition and retention. Furthermore, all indirectly influencing CRM efforts, ‘customer knowledge’, ‘CRM technology’, and ‘channel type’ influence acquisition, retention, and up-selling/cross-selling by assisting multiple directly influencing CRM efforts.

*RQ2: “Which CRM related efforts are considered dissatisfiers by healthcare organizations, resulting in decreased acquisition, retention, and up-selling/cross-selling rates, and why?”*

To answer RQ2, empirical data is gathered from interviewees who represent healthcare institutions. By analyzing the interviewees’ arguments, seven CRM efforts, divided in three constructs are found to be dissatisfiers. Interviewees have expressed the critical importance of these efforts and provided arguments that these CRM efforts should be included at all time. Excluding the dissatisfiers will lead to decreased acquisition, retention, and up-selling/cross-selling rates. First, to ensure the customer’s experience, ‘experience stability’, ‘customer support’, ‘interaction’, and ‘service recovery’ must be taken into account. Second, the product’s surrounding features should be customized, for which



'customized services' and 'improved pricing' are required. Third, the flow of relevant information should be included, which involves 'information flow'.

*RQ3: "Which CRM related efforts are considered satisfiers by healthcare organizations, resulting in increased acquisition, retention, and up-selling/cross-selling rates, and why?"*

To answer RQ3, empirical data is gathered from the interviewees. However, to identify satisfiers, CRM efforts must be considered important, but no prerequisite. In other words, including these CRM efforts should increase acquisition, retention, and up-selling/cross-selling rates. Interviewees mentioned that these satisfiers are relevant and that high performance on these efforts leads to increased rates of the desired outcomes. However, the interviewees also conclude that focus on the satisfiers is not vital to prevent deteriorating rates. Four CRM efforts, divided in three constructs, fulfill this role. First, to improve the product's value, 'customer involvement' and 'customized products' should be included. Second, to build a network, a supplier should focus on 'personal relationship'. Third, to identify the best potential customers, 'customer targeting' should be included. Additionally, 'marketing actions' and 'personalized marketing' are found to be irrelevant.

*RQ4: "Which CRM related efforts require the highest relative priority in healthcare to optimize customer acquisition, customer retention, and up-selling/cross-selling?"*

In order to assign priorities to CRM efforts, determination of dissatisfiers, satisfiers, and irrelevant efforts is key. Dissatisfiers should receive absolute priority before offering products to healthcare institutions. Satisfiers can be postponed until enough revenue is generated to extend CRM investments on top of the dissatisfiers. Finally, investments are optional for irrelevant efforts after investing in dissatisfiers and satisfiers. Therefore, the following CRM efforts should receive absolute priority: 'experience stability', 'customer support', 'interaction', 'service recovery', 'customized services', 'improved pricing', and 'information flow'. Subsequently, resources should be dedicated to the four satisfiers: 'customer involvement', 'customized products', 'personal relationships', and 'customer targeting'. Finally, 'marketing actions' and 'personalized marketing' do not require any priority, but can be considered when attention is paid to all dissatisfiers and satisfiers.

#### *Main research question*

Following the answers of the four research questions, the main research question can now be answered.

*"How should VisitU construct its customer relationship management to optimize customer acquisition, customer retention, and up-selling/cross-selling rates?"*

Three guiding steps are provided to answer the main research question, including the seven design principles as designed to answer RQ4:

- In the implementation phase, when VisitU has limited resources available for customer relationship management, it should prioritize its focus on 1) improving and stabilizing the customer's experience, 2) customizing a product's surrounding features, and 3) improving

the flow of relevant information (design principles 1, 2, 3). This protects the startup from decreased acquisition, retention, and up-selling/cross-selling rates.

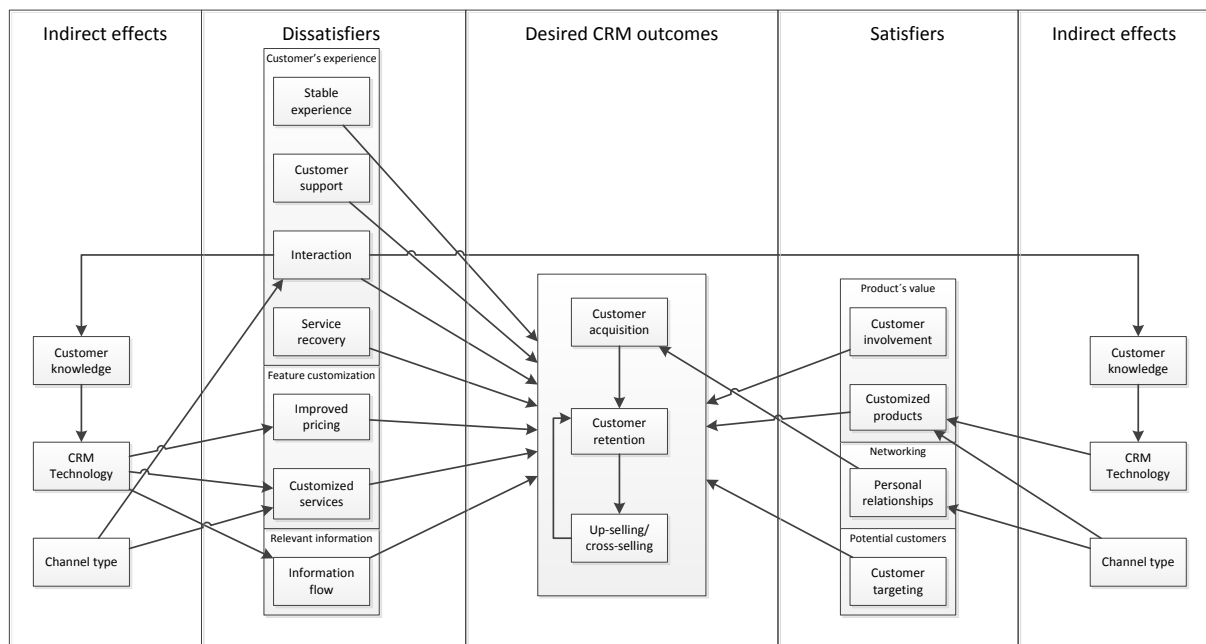
- Subsequently, when more revenue is generated and resources for customer relationship increase, VisitU should also put effort in 1) improving the product's values, 2) increasing its network, and 3) determining which institutions are the best potential customers (design principles 4, 5, 6). This assists the startup in increasing its acquisition, retention, and up-selling/cross-selling rates.
- Furthermore, when attention is paid to all prioritized efforts, investments can be made in marketing (design principle 7). The empirical research of this study denies the relevance of marketing. However, literature has shown that personalized marketing (Richards & Jones, 2008) and marketing actions (Rust et al., 2004) influence the desired CRM outcomes. Until an unambiguous answer can be provided, marketing should not be prioritized, but complete exclusion is arguable. Either way, cautiousness is advised when trying to convince institutions of a certain need through marketing.

## 5.2 Implications

This section discusses both theoretical and managerial implications.

### *Theoretical implications*

Currently, CRM related theories do not provide complete overviews of CRM related efforts. Also, the available literature does not focus on the separate relevance of each effort. This paper provides the first steps to closing this gap. This study confirms the importance of CRM by identifying several CRM related efforts and listing their effects on acquisition, retention, and up-selling/cross-selling rates. The study also provides insights in the relative importance of each CRM related effort and allows firms to prioritize certain efforts. Furthermore, several findings from the literature review were contradicted by interviewees. Whereas articles identify marketing to be important, the interviewees state that it is irrelevant and might even have an adverse effect in the healthcare sector. Also, the CRM effort 'interaction frequency' was rejected by interviewees, who state that interaction by itself is relevant, but frequency is irrelevant. Finally, the empirical data suggests that 'CRM technology' is mediated by four direct efforts, instead of the nine as identified during the literature review. This implies that the effect of 'CRM technology' has less influence than previously assumed. Using these insights, the study provides a critical guide to design a CRM strategy for firms which are new to CRM. The final model of the study is presented in Figure 2.



**Figure 2: Final research model**

### *Managerial implications*

In order to translate the results of the study and the resulting design principles into managerial steps, the final design principles were presented to one of the interviewees to provide practical examples. Also, the conducted interviews were reevaluated to develop managerial implications.

In the early phases of a startup, or when development of a CRM strategy for any healthcare related supplier is initiated, the supplier's initial CRM strategy should focus on the customer's experience, customization of features surrounding a product, and the information flow. These focus points prevent the deterioration of acquisition, retention, and up-selling/cross-selling. First, to ensure the customer's experience, suppliers should focus on 'experience stability', 'customer support', 'interaction', and 'service recovery' as previously stated in design principle 1. To ensure experience stability, institutions desire a developed product which can guarantee high stability, and explain that service options should not be offered if the supplier cannot honor them. Regarding customer support, interviewees express the need for assistance in implementation and for a helpdesk at all time. A supplier should offer these options during the introduction of the product. To successfully provide supplier-customer interaction, physical meetings should be scheduled every 3, 6, or 12 months. As institutions desire a fast service recovery, the supplier should discuss terms with a future customer and fix the agreements in contracts. Interviewees raised that major malfunctions should be resolved in 24 hours. They allow minor malfunctions to be resolved less quickly. Second, to customize the surrounding features of a product, 'customized service' and 'improved pricing' should be included, as mentioned in design principle 2. Regarding customized service, institutions desire to be informed of all available options during a physical meeting. Also, interviewees proposed the use of a digital platform to schedule, for instance, deliveries, meetings, and repairs. To include improved pricing, interviewees state that price reducing options should always be mentioned, and that technology is available to easily calculate if and where reductions can be given. Third, to assure a decent flow of relevant information, 'information flow' requires attention. Institutions have

expressed the need for a fixed contact person and an interviewee identified the use of a digital platform to improve the information flow.

When a startup continues developing, or when application of the CRM strategy for any healthcare related supplier is extended, the supplier's CRM strategy should be extended towards improving the product's value, growing personal networks, and improving targeting of potential customers. These focus points increase the acquisition, retention, and up-selling/cross-selling rates. First, to ensure product's value, the supplier should focus on 'customer involvement' and 'customized products'. To attract (potential) customers to get involved with product development, institutions expect that proper information about future costs is available. Also, interviewees state that the supplier should offer an advantage for the customer, such as letting the involved customers keep the product afterwards. To customize products, the supplier should invest in customizing technology and interviewees agree that the supplier should meet physically with potential customers to inform them about all available customizing options. However, cautiousness is important when offering product customization, as interviewees have expressed that product customization is only desired in special occasions. Second, to grow a personal network, the supplier should include the CRM effort 'personal relationships'. Interviewees explained that networks are effectively built during exhibitions and through the use of existing customers and healthcare related colleagues. Third, to improve targeting of potential customers, suppliers should focus on 'customer targeting'. A supplier should meet with the different institution types to assess their potential, or the supplier should be present at exhibitions to identify highly interested customers. Also, to attract the highly interesting potential customers, interviewees explain that offering of extra features, such as a discount, is generally effective. An overview of the managerial implications is provided in Table 6.

Implementation phase		Continued development	
CRM effort	Actions	CRM effort	Actions
<b>Customer's experience</b>		<b>Product's value</b>	
<b>Experience stability</b>	<ul style="list-style-type: none"> <li>- Guarantee stability</li> <li>- Offer honorable service options</li> </ul>	<b>Customer involvement</b>	<ul style="list-style-type: none"> <li>- Inform potential customers of future costs</li> <li>- Reward for involvement</li> </ul>
<b>Customer support</b>	<ul style="list-style-type: none"> <li>- Assist in implementation</li> <li>- Provide helpdesk</li> </ul>	<b>Customized products</b>	<ul style="list-style-type: none"> <li>- Physical meetings to provide options</li> <li>- Invest in customizing technology</li> </ul>
<b>Interaction</b>	<ul style="list-style-type: none"> <li>- Periodic meetings (3/6/12 months)</li> </ul>	<b>Networking</b>	
<b>Service recovery</b>	<ul style="list-style-type: none"> <li>- Resolve major malfunctions within 24h</li> <li>- Resolve minor malfunctions within 5 days</li> </ul>	<b>Personal relationships</b>	<ul style="list-style-type: none"> <li>- Attend to exhibitions</li> <li>- Use existing customers and colleagues</li> </ul>
<b>Customizing features</b>		<b>Potential customers</b>	
<b>Customized service</b>	<ul style="list-style-type: none"> <li>- Physical meetings to explain options</li> <li>- Digital schedule platform</li> </ul>	<b>Customer targeting</b>	<ul style="list-style-type: none"> <li>- Identify high potential customer types at meetings or exhibitions</li> <li>- Offer extra features to sign high potential targets</li> </ul>
<b>Improved pricing</b>	<ul style="list-style-type: none"> <li>- Use software to calculate reduction options</li> <li>- Provide reduction options</li> </ul>		
<b>Relevant information</b>			
<b>Information flow</b>	<ul style="list-style-type: none"> <li>- Fixed contact person</li> <li>- Provide information using a digital platform</li> </ul>		

**Table 6: Actionable steps**

### **5.3 Limitations and further research directions**

This study has succeeded in identifying a list of CRM related efforts that influence customer acquisition, customer retention, and up-selling/cross-selling rates. Also, the identification of dissatisfiers and satisfiers has led to the possibility to prioritize certain CRM efforts. However, due to the focus and the along coming scope of this study, the study remains limited in several ways. These are discussed in this section and complemented by directions for future research.

First, as the main research question desires empirical research in the healthcare sector, applicability of the developed theory outside the healthcare sector cannot be assured. Although some of the findings seem generalizable for all sectors, no assumptions can be made without extended research. This makes exploratory cross-sector research a logical next step to assess the generalizability of the theory.

Second, this study is presumably the first on the subject of CRM effort relevancy and prioritization of the efforts. For this reason, the study conducted qualitative, exploratory research, leading to initial arguments and insights. However, to confirm the theories following from these arguments and insights, the study and the results require to be quantified. Also, the constructs as provided in section 4.4 are assumptions based on interviews. The underlying relationships of CRM efforts require further research on a quantitative scale.

A third limitation is the exclusion of suppliers' perspectives. The current study merely focuses on potential customers. This limits the insights as presented in this study to just one party of the mutual relationship. The interviewees in this study often explained their role as a supplier of healthcare towards patients. They also admitted that their focuses lie within caring rather than business related topics. By involving suppliers in further research, more complete conclusions can be drawn regarding the effects of CRM related efforts.

A fourth limitation concerns the exclusion of employees who actually work with the products. To gather data, only purchasers, managers, and innovation advisors were interviewed. These interviewees all serve on higher levels of the institutions' hierarchies. Although these functions are considered to provide the most complete picture, several interviewees also express the importance of the employees on the floor. These employees are, in almost all situations, the ones who are actually using products as provided by the supplier. Therefore, further research should include these employees to gain insights from more perspectives.

Furthermore, the fifth limitation lies within the limited attention for indirect CRM related efforts. To reduce the scope to a viable level for this study, the indirectly influencing CRM efforts received less focus. Their importance was identified during the literature review, and the efforts have come to light multiple times during discussion of the results. However, due to a different focus of this study, no further elaboration was made regarding these efforts. Further research should be conducted on the actual relevance of indirect efforts to elaborate on their role in the effect of CRM on acquisition, retention, and up-selling/cross-selling rates. For instance, this study has assumed that the indirect efforts are fully mediated by the direct efforts and therefore has only studied the efforts from this perspective, while the indirect efforts may also be partially mediated.

Finally, a sixth limitation is that no distinction can be made between CRM efforts within the group of dissatisfiers, or within the group of satisfiers. Due to this, seven CRM efforts are in the initial group which requires high priority, and four CRM efforts in the group that requires moderate priority. As these groups are relatively large, the investment steps remain large. Therefore, investment research should be committed towards the effectivity of each dissatisfier and satisfier. Based on the results, certain efforts can be prioritized over other efforts within the same group, allowing smaller investment steps.

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## Appendix A: Interview protocol

All interviews have followed the same protocol, which are elaborated below.

### Introduction

- Introduce myself
- Research motive: I am graduating at the Technical University Eindhoven, where I take part in the master of Innovation Management. I am writing my master thesis on behalf of VisitU, a startup which introduces virtual reality in the healthcare sector. The company was started by a surgeon who noticed that patients still lack in some needs and now focuses on serving this need. It currently aims at increasing its customer base, which consists of healthcare organizations. CRM is, among others, a widely applied strategy to achieve this. However, it is a very broad term, requiring additional research in order to clarify how CRM is best applied in healthcare.
- Interview procedure: Predefined questions are asked to the interviewee. These are followed by additional questions to further elaborate on the topics.
- Ask permission to record the interview, knowing that all gathered data will be confidential.
- Ask for introduction of the interviewee

### General

- Could you describe the term customer relationship management?
- Do you believe that CRM offers added value to a company, and why?

From this point, we will consider your organization as a customer, not as a supplier.

### *Dissatisfiers*

- What is the least you expect from a supplier in your relation with the supplier? i.e. which actions do you consider prior conditions?
  - \* Why?
  - \* How does it affect you?

### *Satisfiers*

- What would you like to see from a supplier in your relation with the supplier? i.e. Which actions do you consider to increase your satisfaction?
  - \* Why?
  - \* How does it affect you?

### *Irrelevant*

- Do any supplier's actions come to mind, which you consider to be irrelevant, i.e. which do not influence your intentions in any way?
- \* Why?

### Subject specific

*Note: several of these subjects will already be mentioned during the general questions. If so, they will not be mentioned again.*

### *Customer involvement*

- Could you describe if and how your organization (as a customer) would play a role in developing new products?

\* How frequent?

\* Why?

### *Product/service experience*

- What tasks should a supplier fulfill to assure your product/service experience?

\* Stability/support/recovery

\* Why?

\* What if a company does not do any of these tasks?

\* How do these tasks influence your relation?

### *Interaction frequency*

- Could you tell me how relevant you consider interaction between a company and you as a customer?

\* Why?

\* Does frequency matter?

\* How is it organized?

\* Channels/technology?

### *Personal relationships*

- Could you tell me how a personal relationship with someone at the supplier's side would influence your behavior?

\* Why?

\* Channels/technology?

### *Customization*

- Could you describe how customization can play a role in improving your experience?

\* Price/service/product

\* What kind of customization?

\* Why?

\* How does it influence your relation?

\* Channels/technology?

### *Marketing*

- Do suppliers often use marketing actions to seduce you to for instance buy products or sign longer contracts?

\* What kind of actions?

\* How does it influence your behavior?

\* Why?

\* Personalized marketing?

\* Channels/technology?

*Information flow*

- Could you describe if and how important it is that (potential) suppliers inform you about their products and other relevant aspects?
- \* Why?
- \* Is it important that this information is unambiguous?
- \* How does it influence your relation?
- \* Technology?

*Customer targeting*

- Do you ever think that suppliers make sacrifices they do not make to others, to sign you as a customer?
- \* What kind of sacrifices?
- \* How does it influence your relation?
- \* Why?
- \* Technology?



## Appendix B: Codebook

The codebook below lists the codes as used during data analysis. The codes are largely responsible for the outline of Chapter 4. To assess whether interviewees agreed with statements regarding topics and/or subtopics, a 3-point Likert scale (1=agree, 2=neutral, 3=disagree) was applied.

CRM effort	Topics (codes)	Subtopics (additional codes)
<b>Customer involvement</b>	Feasibility	Future value
		Relevant information
	Influence products	Hidden values
		Own advantage
		Superior value
Proven technology	Cautiousness	
<b>Customer support</b>	Assist in implementation	Safer choice
		Changing behavior
	Assist in ordering	Learning about product features
		Additional requirements
		Flexibility
Available for questions	Identify mistakes	
<b>Customer targeting</b>	Attract better targets	End-users
		Quick troubleshooting
	Best targets	Additional offerings
		Larger institutions
		Current customers
Extra effort	More value	
<b>Customized products</b>	Customization	Avoid deterioration
		Enhance experience
	Price	Channel type
		Quality of life
		Higher with customization
Vulnerability	Standardization	
		Mistake probability

		Stuck to one supplier
		Unusable
<b>Customized services</b>	Personal package	Channel type
		CRM technology
		Fix in contracts
	Lowering price	Provide options
		Service requirements
	Own capabilities	Forced to include
		Own investments
<b>Experience stability</b>	Malfunctioning	Major malfunction
		Minor malfunction
	Product experience	Product causes danger
		Product does not work
		Product works fine
	Service experience	Incident severity
		Service agreements
<b>Improved pricing</b>	Large demand	Bulk discount
		CRM technology
		Standardization
	Quality/price	Budget
		Comparable quality
	Service requirements	Avoiding options
		Related to price
<b>Information flow</b>	Contact person	Channel type
		Direct link
		Informed person
	Inform the right target	Inefficient use of time
		Involve all necessary parties
	Relevant information	Minimum requirements
		Product offering

	Unambiguous information	CRM technology
		Haziness
		Multiple contact persons
<b>Interaction (frequency)</b>	Evaluation	Assessing performance
		Identify hiccups
		Periodic
	Inefficiency	Unnecessary contact
		Waste of time
	Periodic meetings	Channel type
		Fix in contract
		Schedule
<b>Marketing actions</b>	Actions to existent need	Nice to have
		Work incidentally
	Actions to nonexistent need	No impulsive behavior
		Not taken seriously
	Aggressive marketing	Disturbance of routines
		Seduction to buy more
		Treatment like private clients
	Trusted suppliers	Adverse effect
		Nice extra
<b>Personal relationships</b>	Objectiveness	No personal influence
		Separate related employees
	Personal network	Channel type
		Faster invitation
	Unnecessary efforts	Distrust
		Inappropriate
<b>Personalized marketing</b>	Information distribution	Informative impulses
		Personalized offering
	Seduction to buy more	Offer to identified needs
		Use search history

	Trusted supplier	Price agreements
		No need for additional offers
<b>Service recovery</b>	Contact person	Fast recovery
		Understands situation
	Fast recovery	Avoid measures
		Avoid negative consequences
	Trusted supplier	Deeply involved
		More patience