

MASTER

The effects of product knowledge, training and tooling on cross-selling performance

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Eindhoven, April 2016

**The effects of product knowledge, training
and tooling on cross-selling performance**

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in partial fulfilment of the requirements for the degree of

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Abstract

Background

Firms can improve their earning per customer by ameliorating their relationship with the customer, aiming to sell other related products, which is named cross-selling. The mechanism of cross-selling is important for companies since it results in extra revenue with limited risk.

Purpose and focus

The objective of this thesis is to investigate how the cross-selling performance can be improved by firms through training of employees, tools and how underlying factors of cross-selling affect the performance. In the literature, there is a gap between different types of product knowledge (generalist / specialist knowledge) and cross-sell performances. Also, the research into the role of sales training on those two types of knowledge, how they will affect training and how they are related to cross-selling factors, is new to literature.

Design

The thesis exists of two studies using surveys for 40 employees of the firm CM. The first study included the relation between product knowledge and cross-selling factors as readiness, motivation, CRM usage and cross-selling success. The data were tested using a model analysis by the SEM-PLS methodology. Secondly, an experiment was conducted to test the effects of training on the product knowledge. There were two steps in the experiment: at t_1 , the experiment began with a survey. Thereafter at t_2 , half of the group of sales employees received training on different aspects of products. In the second study, data were analyzed using different regressions.

Results

The combination of the two studies provides an indication on the opportunities for firms to increase cross-selling. The results of study 1 showed that there are significant correlations between specialist knowledge and cross-sell motivation (0.440), cross-sell motivation and cross-sell success (0.800) and cross-sell motivation and cross-sell readiness (0.485). The second study also shows significant results that training increases generalist knowledge of sales employees.

Conclusion

The most important findings are the supported relationships between cross-sell motivation and cross-sell success, as well as between cross-sell motivation and cross-sell readiness. The first two relationships already possessed a theoretical background, while the third supported relationship, between specialist knowledge and cross-sell motivation, is new to the literature.

Management summary

Introduction

During the sales process, there are different approaches that can enable firms to gain extra revenue of their customers. Firms can improve this so-called retention by ameliorating their relationship with the customer, trying to sell better features (up-selling), or to sell other (related) products, which is named cross-selling (Sabnis, Chatterjee, Grewal, & Lilien, 2013). Kamakura (2008, p. 42) describes the concept cross-selling as follows:

“Cross-selling involves the sales of additional items related (or sometimes unrelated) to a previously purchased item, while up-selling involves the increase of order volume either by the sales of more units of the same purchased item, or the upgrading into a more expensive version of the purchased item.”

Cross-selling is an important mechanism for companies to gain extra revenue with limited risk by selling extra products (Kamakura, 2008). More than 90% of the firms cross-sell, and overall, these firms see an increase in the average profit per customer (Shah & Kumar, 2012). The customer lifetime value is higher because customers spend their money on a diversity of products.

Requirements for cross-selling

To turn cross-selling into a success, different essential requirements are present. One of these requirements is satisfying communication skills, since cross-selling enables the possibility of frequent contact (Schmitz, 2013). Furthermore, cross-selling requires detailed information on customer demographics and preferences, as the employees need to know how to serve the customer with the existing product portfolio (Bolton, Lemon, & Verhoef, 2008). Cross-selling requires a different attitude towards the existing customers than normal sales process/up-selling: the sales employees need to increase focus on customers and relationships need to be sustained.

Sample selection and distribution procedure

The data were collected using surveys conducted by employees of the firm. Around 40 employees are part of the firm's sales field. A large amount of the sales employees filled in the survey since the importance of product knowledge and cross-selling within the organization is clear.

In the first study, conducted in early February 2016, the involved sales employees were asked about their generalist and specialist knowledge (see appendix A/B). The first study included the relation between product knowledge and cross-selling factors as readiness, motivation and cross-selling success. Furthermore, CRM usage was added to see how it is related to the cross-selling readiness. Several reminders increased the participation and led to data of 35 employees (85% response), of which 19 employees are trained. During the second survey, 30 employees participated, which is 85.7% of the first group.

Secondly, an experiment was held to test the effect of training on the product knowledge. To measure this difference, there were two measurements: at t_1 , the experiment began with a survey. After the two weeks of the first survey, half of the group of sales employees (around 19 people) received training on different aspects of the products.¹ An overview of the measured constructs and hypotheses as seen in Chapter 2 can be found in Figure 1.

Results and conclusions

The most important findings are the supported relationships between cross-sell motivation and cross-sell success, cross-sell motivation and cross-sell readiness. The first two relationships already possessed a theoretical background in the form of the paper by Malms & Schmitz (2011), while the relationship between specialist knowledge and cross-sell motivation, new is.

The relationship between specialist knowledge and cross-sell motivation can be explained by the in-depth knowledge of employees in that category. They know relatively well which products fit the customer needs and they are eager to use this knowledge in sales situations (Akçura & Srinivasan, 2005). Specialists are motivated to cross-sell, since they know how to fit customers' needs (Román et al., 2002). The in-depth knowledge gives sales employees the motivation to use their knowledge, and try to cross-sell (Zoltners et al., 2006).

The second study supported the expected relationship between training and generalist knowledge (H_{9a}). Specialist knowledge is negatively significant in the regressions that involved the sales employees. According to the hypotheses, this difference was unexpected. No possible factors that could have decreased the specialist knowledge showed up. One explanation could be the

¹ Interviews with employees within the company state that two weeks will be needed to recognize the effect of training.

development in which employees start to feel more generalist than specialist during the training. Therefore, they could have filled in the survey more conservatively at the second point of measurement. Finally, the effect of sales experience was not significant (H₁₁).

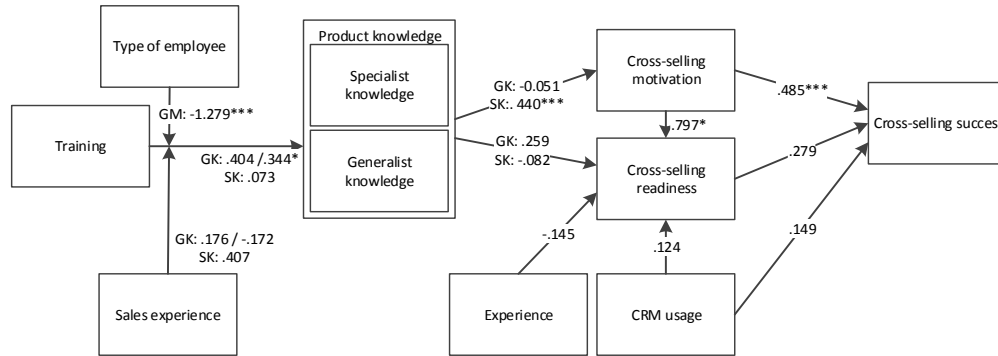


Figure 1, Overview of results study

Overview of the model with the correlations out of the different studies. For some relations, it gave the correlation for generalist knowledge (GK) and specialist knowledge (SK) significance with *0.1 **0.05***0.01

Overall, the results (see figure 1) show that firms should pay attention to the cross-sell motivation of their employees. The analyses show that motivation is probable to have a positive effect on the cross-sell readiness as well as on the cross-sell success. The results indicate that a focus on specialist knowledge is also needed during the cross-sell process. Managers should be aware that it has an impact on the cross-sell performance. Furthermore, managers should but thought into which training they should apply, since the results show that motivation is an important factor, which is not mainly influenced by generalist knowledge.

Theoretically, the filing of two types of product knowledge is interesting, as it indicates that specialist knowledge affects the moderating variable, cross-sell motivation. Also, the effects of training of generalist and specialist are interesting additions to the existing literature, as sales training seems not to be the best mechanism to increase the specialist knowledge.

Limitation and further research

The research has several limitations, mainly created by its size: the study focuses on one firm which focused on the B2B market, so it can be difficult to generalize its results to the whole market or industry. Further research could endeavor to overcome this narrowness in the research by focusing on the impact on firms in other industries, markets and cultures. Also, the increase of objective measurements would help to ensure the reliability. Finally, the availability of more time could help to investigate the knowledge differences between employees more closely.

Acknowledgement

After years of studying, my master thesis in Eindhoven is the end of my academic journey I started in Eindhoven in 2010. After finishing my bachelor industrial engineering, the master Innovation Management was a chance to look in-depth in characteristics of innovation, technical commercialization and entrepreneurship.

After finishing the different courses, I started with a large academic part of student life: the master thesis. This period taught me a lot; I worked with different literature, employees of CM and statistical programs and methodologies that were new for me. The combination between being a part of the work environment of CM, working on the thesis and finishing on time required a proper planning.

Because the thesis was a very time-consuming project for me, many people showed me support during these nine months. I first want to thank my parents who have always expressed great confidence in me. Especially my dad meant a lot to me, he was always there to give me advice and share his knowledge, when he was still alive. I am very grateful for what he and my mother did for me in this important phase in my life. The last person of the family I want to thank is my brother, who was always critical of my work when it was needed but was also there to help me out. Besides that, many of my friends showed me great support.

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L.M.G. Melsen

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1. Introduction

During the sales process, there are different approaches that can enable firms to obtain extra revenue of their customers. Firms can improve this so-called retention by ameliorating their relationship with the customer, trying to sell better features (up-selling), or to sell other (related) products, which is named cross-selling (Sabnis, Chatterjee, Grewal, & Lilien, 2013). Kamakura (2008, p. 42) describes the concept cross-selling as follows:

“Cross-selling involves the sales of additional items related (or sometimes unrelated) to a previously purchased item, while up-selling involves the increase of order volume either by the sales of more units of the same purchased item, or the upgrading into a more expensive version of the purchased item.”

Cross-selling is an important mechanism for companies to gain extra revenue with limited risk by selling extra products (Kamakura, 2008). More than 90% of the firms cross-sell, and overall, these firms show an increase in the average customer profit per customer (Shah & Kumar, 2012). The customer lifetime value is higher because customers spend their money on a diversity of products. This enables firms to outperform their competitors because of higher switching costs, loyal customers and a lower chance on defection (Ansell, Harrison, & Archibald, 2007).

There are specific requirements to use and implement cross-selling successfully since there are different influential factors such as sales orientation, product knowledge, employees and motivation of the sales employees (Malms & Schmitz, 2011). Especially product knowledge will result in an increase of the recognition of sales opportunities since this knowledge can help to find the right products for customers (Malms & Schmitz, 2011).

Another specification of importance to use and implement cross-selling successfully is the separation of sales employees in generalists and specialists as described by Zoltners, Sinha, & Lorimer (2006). According to this separation, two types of knowledge exist in an organization. Some staff members of an organization possess broad knowledge and a better overview of the product portfolio of an organization. This broad product knowledge is defined as *generalist knowledge*. Meanwhile, other staff members dispose of in-deep knowledge on just one or a few products, which is defined as *specialist knowledge*.

This thesis will focus on the differences between general and specialist product knowledge and the way in which these different types of product knowledge influence cross-selling performances. Also, the thesis will prospect for mechanisms that influence this knowledge and consequently can be used to improve cross-selling results. The potentially present influence of training on the cross-selling performance of employees will be examined as well. Also, the role of the different types of sales employee will be part of the thesis. The impact of underlying constructs (e.g. cross-sell motivation/readiness) on the cross-sell success will be tested. Finally, the role of a customer relationship management (CRM) system is the scope of this thesis, since it helps the employees to focus on the customer needs, which can result in a change in cross-sell performance. In short, the thesis exists of a multiplicity of questions that request a relevant question. The main, superordinate research question is, however:

“What is the impact of training, CRM usage and product knowledge on the cross-sell performance of the sales employees?”

The expectation is that the sales employee’s improved product knowledge will result in an enhanced cross-selling performance, since the sales employees will dispose of more knowledge on possible advice on other products (e.g. products which are commonly used in specific industries or by a specific type of customer). Training and CRM usage are possibilities for firms to increase this knowledge and can give insights in their influence. Also, the role of the type of employee is part of the research since specific roles (e.g. market manager or accounting manager) are related to different knowledge levels of the product portfolio.

1.1 Relevance of cross-sell study

There has been a lot of research into the underlying influences on cross-selling. Malms & Schmitz (2011) noticed relevant factors that have an influence on the cross-selling performance: the motivation of the sales employees, readiness of opportunities and sales dispersion.

Product knowledge is an influential factor on the sales and cross-selling process (Weitz, 1981). One of the definitions of product knowledge is given by Marks & Olson (1981), who described product knowledge as the information about the products, attributes, evaluations, decision heuristics and usage situations (Grønhaug, 1986). Studies show that product knowledge influences the success of the sales process in combination with communication skills, since it

enables a customer orientation (Schmitz, 2013; Román, Ruiz, & Luis Munuera, 2002). While the role of product knowledge in the cross-selling process is clear, existing research does not focus on how different types of product knowledge affect cross-selling. Firstly, the available studies (e.g. Malms & Schmitz, 2011; Weitz, 1981) focus on in-depth knowledge and neglect the separation as outlined in the sections above. The gap between product knowledge and cross-selling can be filled by using the separation made by Zoltners et al. (2006) into generalist and specialist knowledge. The lack of research into the differences in the field of product knowledge is not the only gap this thesis will set out to fill. Secondly, this study endeavors to clarify the role of sales training on the product knowledge. Finally, the relationship between CRM and cross-selling will be clarified, which will give an indication on the importance of CRM.

When regarded from an academic perspective, these three areas of focus all fulfill a role of importance as they will reveal factors that affect cross-selling. However, the study will prove to possess practical relevance, as its findings will enable firms to improve sales performances.

1.2 Research question

The cross-selling performance is influenced by social, technical and organizational factors. The study will focus on the impact of training on product knowledge, product knowledge on cross-selling and CRM usage as mechanism to improve the cross-selling. In the extension of the primary research question, some secondary questions are posed to indicate the impact.

An impact of training on product knowledge can be expected. However, it is unclear how training affects product knowledge on different levels. Product knowledge with respect to cross-sell performance is also part of different studies, but the separation of product knowledge has not been studied deeply. Finally, the role of CRM on the cross-sell process will be part of the research since it has an impact on the cross-sell readiness of firms. These topics will be analyzed based on several research questions:

- Does training improve the different types of product knowledge in an organization?
- Does product knowledge moderate between training and cross-sell performance?
- How do the different types of product knowledge influence cross-selling?
- What is the role of cross-sell motivation and cross-sell readiness in the cross-sell success?
- What is the role of CRM in the cross-sell process and how does it affect performances?

1.3 Research scope, goal and contribution

As discussed in the introduction, product knowledge influences the cross-sell process since it influences the customer orientation (Román, Ruiz, & Luis Munuera, 2002; Schmitz, 2013).

Product knowledge can be divided into two different types, based on the separation by Zoltners et al. (2006): specialist knowledge and generalist knowledge. Their impact differs: generalist knowledge is associated with a better market orientation (and thus customers), since more products are known (Weitz, 1981). On the other hand, specialist knowledge can help to match the needs of a customer with specific components of the product (Zoltners, Sinha, & Lorimer, 2006).

The thesis will contribute by filling the literature gap on the role of product knowledge on cross-selling by bringing two fields together: the effect of product knowledge on cross-selling performances (e.g. studied by Malms & Schmitz, 2011; Weitz, 1981) and the effect of training on product knowledge (e.g. studied by Jantan, Honeycutt, Thelen, & Attia, 2004). The goal is to achieve an insight into the role of product knowledge and training on the cross-selling performances as well as in the underlying factors. Thirdly, the thesis will fill the gap by bringing CRM usage into the model of Malms & Schmitz (2011). This will prove relevant, since usage of CRM systems can help to spot potential sales opportunities.

In addition to the fulfilment of literature gaps, the three parts will also provide some implications for managers: the sales employees' possession of knowledge of the current product range has an influence on their cross-selling performance, but the training whereby this knowledge is gathered is also essential. Thirdly, the role of CRM usage by the employees can be a scope for managers, since it can help them to stimulate cross-selling.

1.4 Company background

The thesis is done at CM, a company that was founded by two TU/e students in 1999: Gilbert Gooijers and Jeroen van Glabbeek. In the beginning, they focused on the distribution of text messages (SMS) to large commercial parties. During that period, they visited discos and clubs to sell their solutions. Since then, the company has grown rapidly and it currently has over 200 employees in seven different countries. The firm is active in mobile messaging, payments, voice, app development and ticketing.

The first division, mobile messaging, focuses on the delivery of messages, notifications and interaction between companies and consumers. Examples of their services are the delivery of large amount of text messages for banks, government or television shows, *push notifications*, sending secure messages for *two-factor authentication* and *over-the-top* solutions like WhatsApp.

The second division, mobile payments, focuses on payments by consumers for products and services. Several solutions are available:

- Premium texts, the consumer pays by sending text messages to for example 3669.
- Direct carrier billing, the consumer pays for products or services with their phone bill.
- Microincasso or Flexdoneren, the consumer pays by sending a text message with their bank account. CM processes the transaction by recovering the money.
- CM payments, a payment service provider (PSP) solution of CM. The solution processes the transactions for pay methods as iDEAL, credit cards and PayPal.

The third division is dedicated to app development. Most of the time, the apps are custom solutions, usually requested by existing customers.

The fourth division is voice, which focuses on solutions for calling special service numbers (e.g. the 0800/0900 numbers for the Netherlands). CM delivers service lines for media companies, quiz channels and voting solutions.

The company has customers all over the world and their system delivers support in over two hundred countries in fields such as media, health and financial services. CM's fast growth and excellent management have been awarded at several occasions. In the past years, CM acquired and merged with several companies to attain a larger market share. Furthermore, CM launched their payments division last year.

During the thesis, several interviews were done with the managing director and other employees. Those interviews have resulted in an excellent overview of possible directions of the thesis. The relevance of cross-selling as a topic was discussed to see how it could be scoped in a study within the academic world and CM. Cross-selling can be seen as relevant topic since the firm has a wide portfolio of products. Cross-selling could be an opportunity to introduce newly developed products to the existing customers.

1.5 Overview of study

This thesis will focus on the relation between product knowledge and cross-selling performance. The first part of the study will focus on the relationship between the different types of product knowledge, type of sales employees and the cross-selling performances. The second part of the study will test the effect of product training on the different types of product knowledge. This study will be performed using an experiment in which a group of circa 15 employees will be trained and another group of 15 employees will not. The difference between the groups will be analyzed using two measure points to distinguish the impact of training and their effect on the product knowledge.

The model of Malms & Schmitz (2011) will be extended to fill the existing literature gaps between training and product knowledge as well as the gap between different types of product knowledge and cross-selling readiness. The two studies will provide an indication of the underlying factors that influence cross-selling and the effect of training on the product knowledge within an organization. Finally, the relationship between CRM usage and cross-sell readiness and performance is measured to test the role of CRM usage as a method of knowledge transmission.

The thesis includes the following parts: Chapter 2 provides an overview of the cross-sell process, relevant factors that affect this process and hypotheses around the research topic of cross-selling, product knowledge, CRM usage and training. Chapter 3 describes the relevant methodology concerning the data sources, constructs and different statistical analyses methods. Chapter 4 gives the results of the analyses and discussion and conclusion are presented in Chapter 5 and 6 respectively.

2. Literature review and hypothesis development

As discussed in the introduction, cross-selling is an important concept in sales and marketing. To achieve an overview of the concept and its underlying factors, a literature review has been made.

The literature review consists of three parts. The first part describes cross-selling and its importance. In addition, an overview of the existing literature is given. Secondly, critical factors that have impacts on cross-selling are discussed. The third part contains different hypotheses regarding product knowledge, training and CRM usage and their impact on performance of cross-selling.

2.1 Process of cross-selling

As described in the introduction, cross-selling is a way to gain value from a customer, which generally results in a higher profit and a higher customer life time value (CLV). CLV is a concept which describes the “profitability be determined and that resources be allocated according to the customer’s lifetime value” (Stahl, Matzler, & Hinterhuber, 2003, p. 268).

During different sales moments, contact with the customer creates the opportunity for a firm to generate extra revenue by selling related products. During the cross-sell process, it is important for sales employees to know the product characteristics, read the customer needs and know which benefits are present for the customer (Schmitz, 2013). Cross-selling aims to result in a higher profit per customer, since sales employees will try to sell related products to customers.

Requirements for cross-selling

To turn cross-selling into a success, different essential requirements are needed to be fulfilled. One of these requirements is satisfying communication skills, since cross-selling enables the possibility of frequent contact (Schmitz, 2013). This frequent communication is essential since it helps to maintain personal contact, which eases the sales process (Verhoef, Franses, & Hoekstra, 2001). During communication, it is important that employees are proactive, identify sales opportunities, close sales, take risks and are flexible in their behavior (Patterson, Yu, & Kimpakorn, 2014). However, too much contact can result in a negative result since the costs can become higher than the revenues (Shah & Kumar, 2012). Furthermore, cross-selling requires detailed information on customer demographics and preferences, as the employees need to know how to serve the customer with the existing product portfolio (Bolton, Lemon, & Verhoef, 2008).

Cross-selling requires a different attitude compared to normal sales process/ up-selling towards the existing customers: the sales employees need to increase focus on the customers and relationships need to be sustained. Furthermore, the sales employees need to know more about the products in order to be able to advise products based on the needs and wants of the customer (Akçura & Srinivasan, 2005; Ansell, Harrison, & Archibald, 2007).

Related concepts according to cross-selling

The concept of cross-selling is clear; it focuses on a customer who will buy more diverse products from the organization. One of the concepts related to improving the sales process and increasing a higher average customer lifetime value on sales employee level is up selling. Up-selling also tries to increase the average margin of customer (Kamakura, 2008). Another concept is ambidextrous product-selling strategy. Van der Borgh, Jong and Nijssen (2015, p. 3) noted that “*cross-selling does not necessarily mean selling current and new products that may belong to the same product category and be substitutes*”. This sales approach also pays attention to new products during the sales process. Therefore, sales employees need to weigh selling either existing or new products to the customer by asking themselves which would be the most profitable.

Overview of relevant literature

During the cross-sell process, different relevant factors are involved, such as the environment of the process, the social influences and the technology. An overview of different studies that are used can be found in Table 1. The studies are sorted based on these underlying keywords:

- Concepts related to cross-selling (C): *upselling*
- Outcomes of sales process (O): *customer lock in and churn, satisfaction customer, service quality, service, share of wallet*
- Purpose and role of cross-selling (P): *acquisition pattern analysis, cross-selling*
- Relation with customer (R): *addressable marketing, business marketing, customer lifetime value, customer relationship management, direct marketing, industrial marketing, market segmentation.*
- Social influences on sales (S): *ability, motivation, productivity, selling method, social norms, selling team.*
- Technology used in cross-selling process (T): *database marketing.*

Table 1, Literature relevant to cross-selling

The table describes the background of the different studies that are used. The number of observations describes the sample size, the type(s) and level of study focuses on how the data and results are gained and the relevance focuses on how it will affect the literature study. The last column describes the direction(s) of study: Concepts related to cross-selling (C), Outcomes of sales process (O), Purpose and role of cross-selling (P), Relation with customer (R), Social influences on sales (S), and Technology used in cross-selling process (T).

Author(s) (year)	Number of observations	Type(s) and level of study	Relevance	Study
Akçura & Srinivasan (2005)	-	Research note, experimental study	Describing customer intimacy and how it will affect the cross-sell success.	R
Ansell, Harrison, & Archibald (2007)	10,976 customers	Analysis of customer behavior	Description of the role of segmentation and lifestyle analyses on cross-selling.	R, S
Bolton, Lemon & Verhoef (2008)	120 firms	Analysis how firms will purchase products, including how they make decisions	Role of relationships with customers and how they affect customer satisfaction.	O, R
Kamakura et al. (2003)	5,500 transactions	Analysis of customer behavior	Description of the role of the tooling as CRM systems on cross-selling.	R, T
Kamakura et al. (2005)	-	Literature overview of customer relationship management	Description of customer relationship management and how it has influence on the business.	R
Kamakura (2008)	-	Literature overview s of cross-selling studies	The success of cross-selling as a strategy for customer development are discussed	C, P
Malms & Schmitz (2011)	231 sales employees	Analysis of sales employee performance across departments by surveys.	Different essential influential factors of cross-selling success.	O, P, S
Patterson, Yu, & Kimpakorn (2014)	12 sales employees	Analysis of sales employee performance by interviews.	The role of cross-selling with respect to service delivery.	O, P, S
Schmitz (2013)	231 sales employees and 55 sales managers	Analysis of sales employees and managers using a survey.	Description of different important group factors with respect to cross-selling.	O,P,R,S
Shah & Kumar (2012)	Managers of 36 firm across U.S/Europe	Analysis of cross-selling mechanism in firms using interviews	Description of disadvantages of cross-selling and impact on sales performance.	O, P
Verhoef, Franses, & Hoekstra (2001)	2,018 customers	Survey on customers.	Description of usage of cross-selling.	O, R
Weitz (1981)	-	Literature overview	Description of the underlying factors for successful selling.	P, R

Influential factors on the cross-sell process

Several factors have an impact on cross-selling effectiveness; some of these influential factors include sales employees' personal characteristics, such as their cross-sell motivation, personal background, cross-sell readiness (degree of recognition of cross-sell opportunities) and experience within the company (Malms & Schmitz, 2011). Group factors in firms that can have an impact on the success (e.g. reputation, norms) may exist, but differ on firm level.

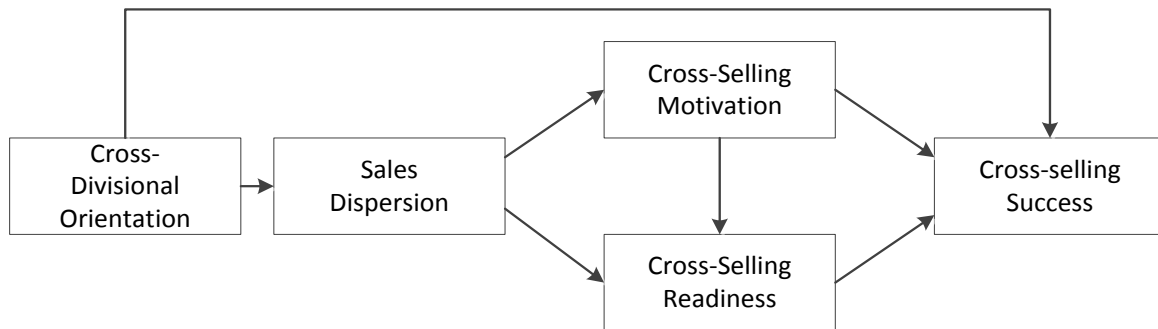


Figure 2, Model of Malms & Schmitz (2011)

Influential factors of the cross-sell process on an individual level

Malms & Schmitz (2011) indicate different underlying constructs that can be seen as conditions for the cross-selling success (see Figure 2). Their model starts with the cross-divisional orientation, which describes how a sales employee maintains contact with other divisions throughout the firm. It is a description of the degree of cooperation between the different sales and technical/development departments. The second construct, the sales dispersion, describes the diversity of products that are sold by a certain sales employee. A higher dispersion is associated with more possible cross-sales. Thirdly, cross-selling motivation is part of the model; the motivation of a sales employee to cross-sell products to existing customers is important to close a cross-sell deal. This motivation can be separated into instrumentality motivation and competitiveness motivation. The instrumentality motivation focuses on the task and its details, while a competitiveness motivation focuses on competition of the own performance with the performance of colleagues (Brown & Peterson, 1994). Fourthly, cross-selling readiness is the degree to which employees recognize cross-selling opportunities. This can be seen as a degree of customer orientation, the degree of recognition of customer needs and how they can be fulfilled during an opportunity moment.

Another concept which can help to increase the customer orientation is the customer relationship management (CRM) approach, which can be seen as a management strategy to increase the knowledge. Garrido-Moreno & Padilla-Meléndez (2011, p. 438) explained CRM as:

“CRM is a business strategy that aims to establish and develop value-creating relationships with customers based on knowledge. Using IT as an enabler, CRM requires a redesign of the organization and its processes to orient them to the customer, so that by personalizing its products and services, the firm can optimally satisfy customer needs and thereby generate long-term, mutually beneficial, loyalty relationships.”

CRM has different advantages such as knowledge sharing and an improved fitting of the customer, which can become a competitive advantage because it is difficult to imitate (Garrido-Moreno & Padilla-Meléndez, 2011). CRM also results in lower cost of retention compared to acquisition of customers as well as an increasing profitability of the customer on the long term (Wilson, Daniel, & McDonald, 2002).

2.2 Hypotheses development

Based on the literature research and existing models, different hypotheses have been developed, which will be discussed in the next section. These hypotheses result in a research model that exists of different relations (see Figure 3). In this model, product knowledge is divided into two categories, since product knowledge consists of divergent information about the products, attributes, evaluations, decision heuristics and usage situations (Marks & Olson, 1981; Grønhaug, 1986) and it is in line with the separation of Zoltners et al. (2006). Furthermore, the model introduces CRM usage, as it facilitates knowledge sharing and improved fitting of customer needs (Garrido-Moreno & Padilla-Meléndez, 2011).

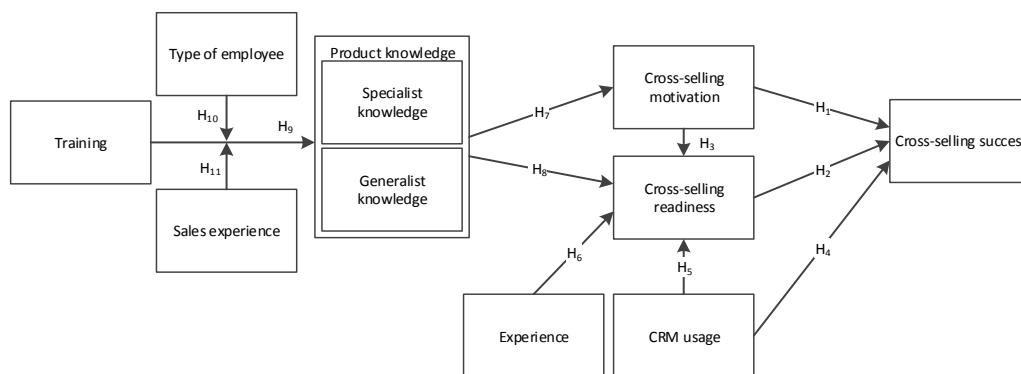


Figure 3, Overview of constructs and hypotheses

Influence of cross-selling motivation and readiness

The cross-divisional orientation, cross-selling motivation and cross-selling readiness have a direct influence on the cross-selling performance. Based on Malms and Schmitz (2011), cross-selling motivation and cross-selling readiness are expected to be associated with cross-selling success. Motivation is associated with the attempt to cross-sell, which can result in a higher probability of cross-sell success. Secondly, cross-sell readiness is associated with knowledge of customer needs (Román, Ruiz, & Luis Munuera, 2002). More knowledge of different categories (cross-sell readiness) is also associated with more sales success since their knowledge structure enables employees to improve their interpretation of sales opportunities (Sujan et al., 1988). The conclusion is therefore that cross-sell readiness is associated with more cross-selling by better cross-sell recognition. Finally, the expectation is that cross-sell readiness will result in more motivation to cross-sell since the renewed knowledge of situations in the knowledge structure of employees facilitates product sales (Sujan et al., 1988). This leads to the following three formal hypotheses:

- H₁ Higher cross-selling motivation is associated with more cross-selling success.
- H₂ Higher cross-sell readiness is associated with more cross-selling success.
- H₃ Higher motivation is associated with more cross-selling readiness

Influence of CRM on cross-selling

CRM enables firms to share customer data more easily and can be an interesting way to help to read the customer's needs. CRM include customer information, such as sales patterns and news, and helps sales employees to fit customers' needs (Garrido-Moreno & Padilla-Meléndez, 2011).

The expectation is that the technology and the database of CRM systems will make it easier to judge potential customers' needs, and so the CRM will result in an increased cross-sell readiness (Rapp, Trainor, & Agnihotri, 2010). Secondly, the expectation is that the CRM system will result in more cross-sell success since CRM systems help to maintain information about customers' needs and their history internally (Jayachandran, Sharma, Kaufman, & Raman, 2005). Both expectations result in the following hypotheses.

- H₄ Higher usage of a CRM system has a positive effect on cross-sell readiness
- H₅ Higher usage of a CRM system has a positive effect on cross-sell success.

Influence of experience on cross-selling readiness

Campbell et al. (1993) showed that the demographic background of an employee, for instance, the employee's experience, can affect the level of declarative and procedural knowledge they display in their job. For sales employees, the declarative knowledge, which can be influenced by experience, is important, since it enables employees to understand the motives, traits and behavior of customers and helps employees to communicate with customers (Sujan, Weitz, & Kumar, 1994). The experience of previous sales possibilities enables experienced employees to judge and to deal with situations in which cross-selling opportunities occur (Sujan et al., 1988).

Based on experience as developed in different situations and the skills the employee has gained in these situations, the expectation is that the more experienced sales employees are more capable of judging cross-sell opportunities than their less experienced colleagues.

H₆ More experience has a positive effect on cross-selling readiness

Effect of product knowledge on cross-selling motivation

The separation in generalists and specialists by Zoltners et al. (2006) can result in different attitudes towards the cross-sell process, which can have an influence on the cross-sell motivation. Generalists have a broad knowledge of the products and customer needs (Román, Ruiz, & Luis Munuera, 2002). Generalists can use their knowledge structure to figure out what they can sell (Sujan et al., 1988). Specialists knowledge, on the contrary, is essential in the sales process: it engages sales employees to match the specific needs with products (Akçura & Srinivasan, 2005). This results in a higher probability of selling products to the customer (Zoltners et al., 2006).

The expectation is that generalist and specialist knowledge both are associated with an increase in cross-sell motivation. Generalists are motivated by knowledge of the portfolio – what fits the needs - while specialists are motivated by finding the best solution using products characteristics.

H_{7a} A higher degree of generalist knowledge will result in an increase of the motivation of the sales employee to cross-sell.

H_{7b} A higher degree of specialist knowledge will result in an increase of the motivation of the sales employee to cross-sell.

Influence of product knowledge on cross-selling readiness

As noticed, generalists are associated with a focus on the customer needs and their orientation (Román, Ruiz, & Luis Munuera, 2002). A higher level of knowledge on different categories (generalist knowledge) is associated with a relatively precise classification of the customer, the behavior of the customer and the needs of the customer in their knowledge structure (Sujan, Sujan, & Bettman, 1988). The expectation is that it will influence the cross-sell readiness:

H_{8a} More generalist knowledge will result in an increase in cross-selling readiness.

The other type, specialist knowledge, focuses on the specifications and applications and is associated with a higher probability of selling those products in the sales process (Zoltners, Sinha, & Lorimer, 2006). Specialist product knowledge is an important skill in the sales process, because in-depth knowledge helps to solve specific problems that customers may encounter. Sujan et al. (1988) state that having knowledge of fewer categories in the knowledge structure results in a less effective recognition of sales opportunities. Specialists possess a small knowledge of the different categories (Zoltners, Sinha, & Lorimer, 2006), so the expectation is:

H_{8b} More specialist knowledge will not have an impact on the cross-selling readiness.

Influence of training on product knowledge

The training, which was applied in the study, focuses on the product portfolio and the different product characteristics and can be seen as a sales training. In this situation, training is a mechanism to improve the knowledge structure of a sales employee (Sujan et al., 1988). The use of training can improve the performance but it also helps to motivate sales employees to solve problems of customers (Román, Ruiz, & Luis Munuera, 2002).

The expectation is that the ameliorated knowledge structure will result in an increase in the knowledge of different products and the way they fit potential needs, and thus will result in increased generalist knowledge. Furthermore, the expectation is that specialist knowledge will not increase since the training mainly focuses on a broader knowledge structure of products instead of in-depth knowledge of products (Sujan et al., 1988).

H_{9a} Sales training will increase generalist knowledge of a sales employee

H_{9b} Sales training will not increase specialist knowledge of a sales employee

Influence of the type of employee on knowledge within the organization

In firms, different types of employees are present, such as account managers, market managers and customer support. Employees possess different areas of knowledge: account managers are more often generalists while market managers tend to be specialists in separate parts of the market (Zoltners et al., 2006). The expectation is that differences in types of employees will result in differences in the effect of training and will have a moderating role in the relationship between training and product knowledge.

Since account managers are the primary example of generalists within the organization and usually know the whole portfolio of the firm, the expectation is that the training will not have an impact on their generalist knowledge. The expectation is that effect of training on specialist knowledge is not present since the training is mainly focused on general issues. Most of the employees have a broad overview of the products but they do not possess in-depth knowledge of products (Zoltners, Sinha, & Lorimer, 2006). The training will help to provide the knowledge missing from their knowledge structure (Sujan et al., 1988). Market managers focused on specific markets and products, so the expectation is that their product knowledge is more specialized. Therefore, the training will result in an increase in generalist knowledge. Training will not affect specialist knowledge, since market managers already possess that knowledge and the training mainly focuses on the products instead of the in-depth characteristics.

H_{10a} Account managers' generalist knowledge will not be influenced by training

H_{10b} Account managers' specialist knowledge will not be influenced by training.

H_{10c} Market managers' generalist knowledge will be positively influenced by training.

H_{10d} Market managers' specialist knowledge will not be influenced by training.

Influence of sales experience

The sales experience will be added to the model, since it provides an insight into the knowledge structure of an employee (Sujan et al., 1988). The expectation is that a more extensive history of sales will decrease the effect of training since their knowledge structure enables to link new situation of experienced situation in the market. More experienced employees get less impact since they have a better frame of reference.

H₁₁ More sales experience will decrease the effect of sales training.

3. Methodology

Based on the hypotheses and conceptual model posed in Chapter 2, this chapter will describe the sample and how the selection, methodology, studies and measures have been executed. Section 3.1 will provide an overview of the sample and distribution, followed by an overview of the methodology of study 1 in section 3.2 and study 2 in section 3.3.

3.1 Sample selection and distribution procedure

The data were collected using surveys conducted by employees of the firm. Around 40 employees are part of the firm's sales field (see Table 2 on different employees). A large amount of the sales employees filled in the survey since the essence of product knowledge and cross-selling within the organization is clear. By doing separate surveys using different measurements, it was possible to achieve an overview of the effect of training. Also, exogenous effects could be discovered.

Table 2, Overview of sample of sales employees

Overview of the different employees and their sample size during T₁ (N₁), T₂ (N₂) and the training (N_{training}).

Employee(s)	Description	Total	N ₁	N ₂	N _{trained}
Account manager	The account managers of CM are the employees that maintain contact with customers.	6	6	4	4
Market manager	The market managers are specialists of different areas of industry, such as finance, health care, media and wholesale.	6	5	3	2
Support employee	These employees support existing customers. They are in touch with the existing customers on a regular basis and have the opportunity to cross-sell.	15	14	14	8
Sales employee	The group exists of sales employees, sales engineers and sales consultants.	9	7	6	3
Management	The management as referred to in this survey exists of the CEO, manager director, CMO and the head of the sales department.	4	3	3	2
Total employees		40	35	30	19

In the first study, conducted early February 2016, the involved sales employees were asked about their generalist and specialist knowledge (see appendix A/B). The first study included the relation between product knowledge and cross-selling factors as readiness, motivation and cross-selling success. Furthermore, CRM usage was added to see how it is related to the cross-selling readiness. Several reminders increased the participation and led to data of 35 employees (85% response), of which 19 employees were trained. During the second survey, 30 employees participated, which is 85.7% of the first group

Secondly, an experiment was held to test the effect of training on the product knowledge. To measure this difference, there were two measurements: at t_1 , the experiment began with a survey. After the two weeks of the first survey, half of the group of sales employees (around 19 people) received training on different aspects of the products.² An overview of the measured constructs and hypotheses as seen in Chapter 2 can be found in Figure 4.

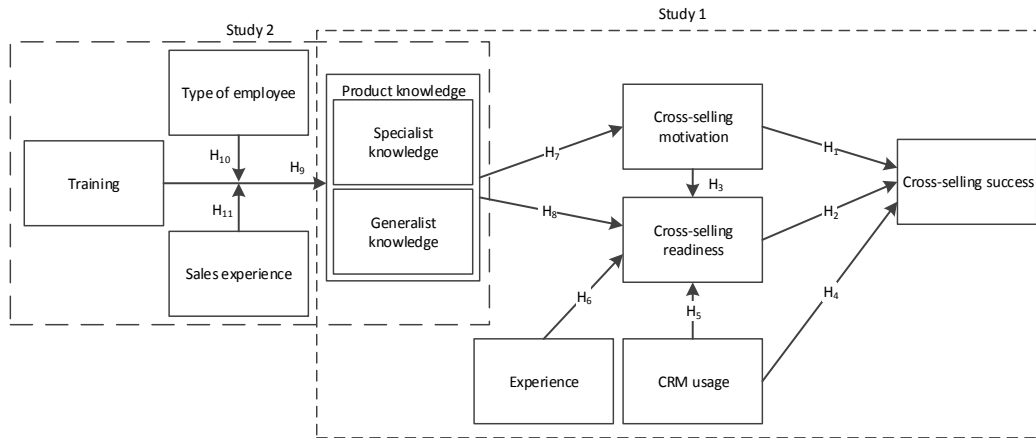


Figure 4, Research model for studies around product knowledge and cross-selling

3.2 Methodology study 1: the role of product knowledge and cross-selling

The first study focused on the knowledge level of the different sales employees and their cross-selling results by measuring different constructs (see Figure 4). These constructs are related to each other, according to literature. The survey held at t_1 in combination with objective data given by the managers was analyzed to gather insight in the underlying relationships.

Statistical analyses using structural equation modeling

After preparing the data by checking on outliers and other irregularities, different assumptions (e.g. no univariate and multivariate outliers and data normality) were tested using SPSS. The results of these tests indicated that the statistical requirements were fulfilled. Based on those requirements, different statistical analyses were executed using SmartPLS (see Chapter 4). The first study was held using the structural equation modeling technique (SEM) and in particular the partial least squares SEM (PLS-SEM), which is a causal modeling approach aimed at the explanation of the variance of constructs instead of the covariance based SEM models (CB-SEM) (Hair, Ringle, & Sarstedt, 2011). CB-SEM focuses on estimating a model where the

² Interviews with employees within the company state that two weeks will be needed to recognize the effect of training.

differences between the covariance matrix and the model prediction are minimalized, which requires a multitude of fulfilled assumptions (e.g. normality, large sample size). Instead of CB-SEM, PLS-SEM focuses on maximizing the explained variance, which differs from a reproduced covariance matrix in 'classic' SEM modeling. Since PLS-SEM does not need to fulfill these requirements, it can be used in situations in which the assumptions are violated (e.g. non-normality or a small sample size). Furthermore, SEM can be used in series of relationships simultaneously and is particular useful in situations involving relations with dependent variables. The SEM models include six phases (Hair et al., 2006):

1. Defining the individual constructs: reliable constructs are needed, so some constructs from previous academic research and existing literature are used.
2. Developing the overall measurement model: this stage includes the design of the variables and the investigation of their relationships, based on existing literature.
3. Design a study to produce empirical results: it is important that the model includes enough data and that missing data is being corrected. In CB-SEM models, around 100 observations are needed with five or fewer constructs. In the PLS-SEM, the size needs to be equal to ten times the largest number of indicators (5), or ten times the largest number of structural paths directed at a construct in the model (5). So the size in PLS-SEM needs to be around 50. These assumptions will be violated in the study since there are not more cases available, which has proven to be a weakness in this study.
4. Assessing the measurement validity: this step includes to test how well the measures model fits with the predictions. Firstly, the model quality needs to be tested using several validity tests. Secondly, the validity of the different constructs are tested.
5. Specifying the structural model: this includes connecting the variables in the model based on the hypotheses. This step will be conducted using statistical program SmartPLS.
6. Assessing the structural model validity: based the validity and measurement validity test of step 4, step 6 tests how well the model fits the expectations. This step focuses on the different paths and their significance.

Based on the six steps, a PLS-SEM model can be compiled, as will be discussed in Chapter 4.

3.3 Methodology study 2: the effect of training on product knowledge

After the measurement at t_1 , training was given to certain sales employees. Two weeks after the training, a post-measurement showed the effect. The training was split into three different parts: providing product videos, lectures about the products and a product list:

- During several lectures, a part of the selected group received training for the preparation of the Mobile World Congress in Barcelona, additional some employees are trained.
- Instruction video: the selected group was shown a series of product related videos.
- Product overview: after the training, the sales employees received a portfolio mapping.

After the training, there was a measurement at t_2 of the knowledge level of the trained (noted with X) and control group. The design is presented below (Thomas, 2010):

Experimental group:	t_1	X	t_2
Control group:	t_1		t_2

Statistical analyses using OLS-regressions

The data was tried to be analyzed using again with SmartPLS, but the software did give errors, so SPSS was used. So, before the data analysis, generalist knowledge needed to be extracted using an exploratory factor analysis (EFA). Those data were verified by a scree plot and Kaiser-Meyer-Olkin value which was higher than 0.5. Finally, EFA reduced the constructs using the Barlett method, which produced estimates by a method similar to regression (DiStefano, Zhu, & Mindrila, 2009). After the EFA, the total effect of the training equaled to: difference of generalist knowledge (GK) and specialist knowledge (SK) between moment $t_2 - t_1$.

$$\Delta GK = GK_2 - GK_1 \qquad \Delta SK = SK_2 - SK_1$$

The knowledge difference was tested using a t-test. Additional, an OLS regression was done which required different assumptions such as normality and homoscedasticity (Hair, Black, Babin, Anderson, & Tatham, 2006). After tests of the different assumptions, the different models were regressed using standardized beta's. The model was tested the significance (P-value < 0.05) of variables using a t-test.

The effects of training were tested on individual level, in order to see how the training influenced the sales employees' performance. The effect of ΔGK_i and ΔSK_i was regressed using the variable training, sales experience and type of employee. Those regressions are:

$$\Delta GK_i = Training_i + \varepsilon_i \qquad (1a)$$

$$\Delta SK_i = Training_i + \varepsilon_i \qquad (1b)$$

The variables included in the first regressions are:

- ΔGK_i Difference of generalist knowledge between measurement 2 and 1
- ΔSK_i Difference of specialist knowledge between measurement 2 and 1
- $Training_i$ Dummy variable whether the employee received training or not
- ε_i Error term of regressions

In the model, centralized interaction variables were added to test whether the type of employee or sales experience have an impact on the knowledge levels. Four types of employees were added: account management, market management, support and general management. The normal situation was based on the general sales employees, so using dummies with -1 (no) and 1 (yes) give an insight how the different employee types affect the results. This resulted in the following:

$$\Delta GK_i = Training_i + Sales\ experience_i + Training_i Sales\ experience_i + \varepsilon_i \quad (2a)$$

$$\Delta SK_i = Training_i + Sales\ experience_i + Training_i Sales\ experience_i + \varepsilon_i \quad (2b)$$

$$\Delta GK_i = Training_i + Employee_i + Training_i Employee_i + \varepsilon_i \quad (3a)$$

$$\Delta SK_i = Training_i + Employee_i + Training_i Employee_i + \varepsilon_i \quad (3b)$$

$$\Delta GK_i = Training_i + Sales\ experience_i + Training_i Sales\ experience_i + Employee_i + Training_i Employee_i + \varepsilon_i \quad (4a)$$

$$\Delta SK_i = Training_i + Sales\ history_i + Training_i Sales\ experience_i + Employee_i + Training_i Employee_i + \varepsilon_i \quad (4b)$$

The variables included in the first regressions are:

- $Employee_i$ Dummy variable for type of employee with variable -1 or 1.
- $Sales\ experience_i$ Amount of products a sales person sold last year

The different regressions were analyzed more extensively on the estimation value using the P-value and the R-squared value, which provided an indication of the model robustness.

3.4 Measures and constructs

A part of the questions (see appendix A/B) of the survey was based on the existing literature on the concepts. The method to form new questions was as well. The used constructs are:

- Generalist and specialist knowledge: these two constructs will be measured by asking different responsible managers (see appendix C) about the knowledge levels of their employees which give an objective overview of the knowledge within the organization.
- Cross-selling motivation describes how motivated the employees are to cross-sell. This aspect will center on responsibility and focus of sales employees (Sujan et al., 1994).

- Cross-selling readiness: this describes the degree in which sales employees see possibilities to cross-sell products of their firm. This includes the recognition of customer needs and product knowledge. These constructs are based on Malms & Schmitz (2011).
- Experience: the length of the employee's stay at the company gives an indication of their experience in selling and recognition of cross-selling opportunities.
- Customer relationship management (CRM) system usage: the survey will focus on how this strategy is part of the business (based on Becker, Greve, & Albers, 2009) and how employees will be using CRM-systems to bring out the potential and strengths of the technology (e.g. discussed by Torggler, 2009; Wilson, Daniel, & McDonald, 2002).
- Cross-selling success: this is the degree of success in cross-selling products to existing customers. This construct is based on Schäfer (2002) and a self-made survey questions to make an additional comparison possible. The combination of two different constructs facilitates the improvement of the control the effect of cross-sell success.

Overview of question and constructs in study 2

- Training: this variable was measured in the experiment. During the first experiment, there was a group with training (T = 1) and a group without training (T = 0).
- Sales function: the function the sales employee has within the firm
- Sales experience: amount of different products an employee has sold products last year. This score was to be divided by the maximum amount of products (12) to get a score.
- Generalist product knowledge was tested by asking questions about the knowledge of all products and tested whether they have a broad overview of products (e.g. Malms & Schmitz, 2011; Zoltners et al., 2006). The two constructs which were used are:
 - o A scale between 1 (low knowledge) and 10 (high knowledge) for the different products. Based on the total, the generalist knowledge equals the sum of the scores, divided by maximum amount (16 questions x 10 points = 160 points).
 - o Secondly, a survey based on Malms & Schmitz (2011) is used in the survey.
- Specialist knowledge is associated with deep knowledge of specific characteristics, specific solutions and how these fit the customer's needs (Akçura & Srinivasan, 2005).

On the basis of the underlying constructs and hypotheses, the model was tested. This will be discussed in length in the next chapter.

4. Results

Based on the methodology and hypotheses, the data of the surveys and general management can be analyzed. Since the thesis was separated in two studies, this chapter is divided in two different sections as well. Study 1 focused more on the underlying factors for cross-selling, while study 2 tested whether training affects the knowledge levels of the employees. Both studies will be discussed in 4.1 and 4.2, followed by a general overview of the findings in 4.3.

4.1 Results of study 1: underlying factors for cross-selling

At t_1 , the survey was sent to 40 employees, which resulted in 35 responses (85%). The data obtained at t_1 in combination with objective data of the management about the knowledge levels of the employees resulted in an analysis of the framework as discussed in Chapter 2. The six required steps of the SEM-model as discussed in Chapter 3 were advanced to the third step: the sample and size were selected and have provided data. Therefore, step 4, 5 and 6 can be executed: testing whether the constructs are valid and testing the hypotheses in the model (see appendix G).

Data validity

According to Hair et al. (2009), different tests need to be fulfilled to see whether the data can be used. These steps include checking on missing data, outliers and the model assumptions.

The first survey was filled in with a few minor exceptions. These missing data, which were not part of the survey, were some demographics (age, study). There was one case with missing information about constructs of generalist/specialist knowledge. However, this case did not need to be used in the first study since objective measurements of product knowledge were used.

Hair et al. (2009) state that variables in standardized format can be checked easily in three ways: univariate, bivariate and multivariate direction. The univariate includes analysis of outliers based on distribution of observations for each variable and selects data out of range of the distribution. Since most of the data was measured on a Likert scale, this could not be used. Only in the case of age and experience there were two outliers, since there are two employees who have 16 and 13 years of experience, which is correct. The bivariate test did not fit, since there are 31 variables that require 465 different bivariate, which would not have been practical. The last method is the multivariate test using the Mahalanobis distance (Field, 2009). The multivariate value of the

Mahalanobis distance (D^2) divided by the number of variables, cannot be higher than the 2.5 (Hair et al., 2006). Calculating Mahalanobis distance for study 1 results in a highest value of 30.61. Dividing by 31 resulted in a Mahalanobis value of 0.99, lower than the required 2.5: no multivariate outliers were present.

The data for the PLS-SEM analysis required fulfillment of some assumptions: normality and testing on outliers. The outliers were discussed in the section before and were correct, normality was tested to see if the data could be used. The data were analyzed on normality using the kurtosis and skewness test. The requirements for this skewness and kurtosis were respectively < 3 and < 10 (Kline, 2005). All the constructs fit on this requirement (see appendix D). Also the Z-scores of skewness and kurtosis, which should be below a value of 1.96 (Field, 2009). The output showed the variables are non-normal (see appendix D). Also, with a transformation relevant for negative skewness, squaring the data, non-normal data did exist. Based on criteria of Kline (2005), squaring the data did not have impact, so the original data was used in the SEM model.

Validity of SEM-model

The fourth step checked whether the construct measures corrected the model. The data showed the different questions from the survey have a correct effect on the constructs. Only the fourth cross-sell readiness constructs showed a negative influence, because it concerned a negatively formulated question. This issue was solved by inverting it to a positive formulated question.

The loadings did not show remarkable findings: all variables were positively related to the constructs. Overall, it seemed that the questions had acceptable loadings to the constructs (see table 3). The models were tested using different quality tests using the statistical program SmartPLS. These criteria can be divided in reflective measurement models, formative measurement models and structural measures (Hair et al., 2011). For the reflective measurements, the internal composite reliability and convergent validity (average variance extracted, AVE) should be higher than respectively 0.70 and 0.50. The last test is the discriminant validity, which can be tested using heterotrait-monotrait ratio of correlations (HTMT) and which should be below 0.85 (Henseler, Ringle, & Sarstedt, 2015). The criteria were met in both models as seen in the correlation matrix (Table 5). Analysis of the confidence interval showed that the values were below the critical value of 0.85, so the discriminant validity was correct.

Table 3, Overview of validity tests for SEM-models

Construct	Variable	Factor loading	(1)			(2)		
			AVE	CR	R ²	AVE	CR	R ²
Cross-sell motivation			.671	.889	.190	.672	.889	.188
	CM_1	.792						
	CM_2	.638						
	CM_3	.922						
	CM_4	.896						
Cross-sell readiness			.76	.828	.611	.759	.925	.627
	CR_1	.949						
	CR_2	.964						
	CR_3	.898						
	CR_4	.632						
CRM-usage			.643	.900		.550	.855	
	CRM_1	.664						
	CRM_2	.687						
	CRM_3	.918						
	CRM_4	.532						
	CRM_5	.846						
Cross-sell success #1			.546	.857	.501			
	CS1_1	.674						
	CS1_2	.720						
	CS1_3	.811						
	CS1_4	.776						
	CS1_5	.707						
Cross-sell success #2						.763	.906	.571
	CS2_1	.806						
	CS2_2	.907						
	CS2_3	.904						
Experience		1.000	1.000	1.000		1.000	1.000	
Generalist knowledge		1.000	1.000	1.000		1.000	1.000	
Specialist knowledge		1.000	1.000	1.000		1.000	1.000	

Table 4, Overview of multicollinearity statistic using cross-sell success measure 1 and 2

	(1)			(2)		
	CM	CR	Cross-sell success	CM	CR	Cross-sell success
Cross-sell motivation		1.308	2.187		1.313	2.206
Cross-sell readiness			2.194			2.281
Cross-sell success			1.010			1.054
CRM-usage		1.020			1.023	
Experience		1.322			1.331	
Generalist knowledge	1.034	1.156		1.034	1.147	
Specialist knowledge	1.034	1.337		1.034	1.336	

Table 5, Overview of correlations and discriminant validity

	Cross-sell success measure #1							Cross-sell success measure #2						
	CM	CR	CRM	CS	Experience	GK	SK	CM	CR	CRM	CS	Experience	GK	SK
Cross-sell motivation	1.000							1.000						
Cross-sell readiness	.829	1.000						.829	1.000					
CRM usage	.186	.218	1.000					.186	.218	1.000				
Cross-sell success	.660	.656	.422	1.000				.822	.732	.201	1.000			
Experience	.361	.169	.094	.264	1.000			.361	.169	.094	.206	1.000		
Generalist knowledge	.146	.236	.184	.222	.334	1.000		.146	.236	.184	.135	.334	1.000	
Specialist knowledge	.446	.286	.117	.362	.361	.181	1.000	.446	.286	.117	.247	.361	.181	1.000

The formative measurements test models on multicollinearity using the variance inflation factor (VIF). The factors should be lower than 5, which was supported in the models (see table 4). Finally, the structural measures, including the R² values, indicate how well the constructs were measured (Hair et al., 2011). As seen in Table 3, cross-sell motivation (CM) is a weak construct with a R-value around 0.19, while cross-sell readiness and cross-sell success are moderate with values around 0.50. The validity the SEM models measured used the SMBR measure and the values are 0.096 and 0.098 respectively for model 1 and 2. Those values are in the range of the critical value of 0.100, which supports the validity of the models (Hu & Bentler, 1998).

Testing the model adequacy

The two models were both tested on their significances and their paths. The tests showed that most paths of the models are not significant. A critical P-value of 0.005 indicates only the relation between specialist knowledge and cross-selling success and the relation between cross-sell motivation and cross-sell success are significant (see Table 6). In the first and second model, this coefficient equals respectively 0.805 and 0.797, which indicates a high correlation between the constructs. Furthermore, the coefficient between specialist knowledge and cross-sell motivation correlates with a value of 0.44 which indicates that there is a relationship.

Table 6, Overview of paths for models using cross-sell success measure 1 and 2

Overview of paths in SEM-PLS model. N.s. means a hypothesis is not significant enough to draw conclusions

	Cross-sell success measure #1			Cross-sell success measure #2			Hypothesis confirmed
	Coefficient	T-value	P-value	Coefficient	T-value	P-value	
Cross-sell motivation -> Cross-sell readiness	.805	6.499	.000	.797	6.359	.000	Yes
Cross-sell motivation -> Cross-sell success	.319	1.737	.082	.485	2.080	.038	Yes
Cross-sell readiness -> Cross-sell success	.349	1.563	.118	.279	1.216	.224	n.s.
CRM usage -> Cross-sell Readiness	.057	.316	.752	.124	.615	.539	n.s.
CRM usage -> Cross-sell Success	.282	1.373	.170	.149	.853	.394	n.s.
Experience -> Cross-sell Readiness	-.157	.803	.422	-.145	.759	.448	n.s.
Generalist knowledge -> Cross-sell motivation	-.044	.260	.795	-.051	.316	.752	n.s.
Generalist knowledge -> Cross-sell readiness	.261	1.713	.087	.259	1.720	.085	n.s.
Specialist knowledge -> Cross-sell motivation	.442	2.540	.011	.440	2.658	.008	Yes
Specialist knowledge -> Cross-sell readiness	-.074	.548	.584	-.082	.626	.532	Yes

Modification of model

As seen in Table 6, the findings of SEM-PLS analyses showed only a few supported hypotheses. Only the influence of cross-selling motivation on cross-sell success, the influence of cross-sell motivation on readiness and the influence of specialism on motivation are supported. Additionally, the effect of cross-sell readiness on cross-sell success was added since it also was a hypothesis (H₈). As seen in table 7, cross-sell success measure 1 supports this effect. The modified model had a satisfying validity with SMBR values of 0.099 and 0.069 for respectively the cross-sell measures 1 and 2.

Table 7, Overview of SEM-PLS test using chosen variables

	Cross-sell success measure #1			Cross-sell success measure #2		
	Coefficient	T-value	P-value	Coefficient	T-value	P-value
Cross-sell motivation → Cross-sell success	.737	10.105	.000	.738	10.187	.000
Cross-sell motivation → Cross-sell readiness	.333	1.869	.062	.473	2.003	.045
Cross-sell readiness → Cross-sell success	.398	2.142	.032	.321	1.386	.166
Specialist knowledge → Cross-sell motivation	.434	2.688	.007	.431	2.716	.007

Based on this model, different models were tested (see appendix F). Firstly, the relation between cross-sell readiness and cross-sell success was added. Secondly, generalist knowledge was added to the readiness. Finally, CRM-system was included in the model as a variable. Further analyses using extra variables did not show extra significant paths or findings. Only the original model, as shown in Table 7, was validated and showed results which match findings and hypotheses.

4.2 Results of study 2: effect of training on product knowledge

Study 2 focused on the effects of training on product knowledge. The study differs from study 1 since it focused on the effect over time. In this section, first the validity of the data will be checked, followed by an analysis of the correlations and the regressions' results.

Data validity

The data of study 2 was checked again on univariate, bivariate and multivariate outliers. Most of the data was on Likert scale, so there were no univariate outliers. Bivariate outliers were tested on a few variables, such as experience and generalist knowledge, experience and specialist knowledge and experience and sales experience, but were not present. Testing the multivariate shows a maximum Mahalanobis distance of 17.41. Dividing this by the degree of freedom (11) resulted in a value below 2.5, so no multivariate outliers are present according to Field (2009).

There were some surveys which missed data in study 1, but those employees did not fill in the second survey. Overall, no interventions were needed to complement missing data, since the complete set of 30 employees was complete.

After the data validity test, factor analyses were performed (see appendix D) which were used in the OLS regressions. To create these regressions, several assumptions were needed, such as normality and homoscedasticity. The test of assumptions shows the data are not normal-disturbed. Several transformations (e.g. squaring, cubing or square rooting the data) did not change the data to a normal-distributed model. Based on these findings, the original data were used in the analyses. The small amount of observations can be considered as a shortcoming.

Descriptive statistics and correlation matrix

The descriptive statistics of study 2 (table 8) show no surprising variables or outliers in the data, which is in line with earlier data validity tests. Analysis of the correlations (Table 9) showed that most of the correlations are non-significant. There is a positive correlation between sales employees and sales experience and a negative relation between support and sales history. Since sales is more involved in different sales situations, while support mainly helps customers, that is not unusual.

Table 8, Descriptive statistics of study 2

	Mean	Std. Deviation	Minimum	Maximum	Observations
Sales experience	2.67	2.04	.00	7.00	30
Difference generalist knowledge #1	.26	.70	-1.17	2.81	30
Difference generalist knowledge #2	.07	.11	-.21	.26	30
Difference specialist knowledge	-.17	.89	-2.82	2.52	30

Table 9, Correlation matrix

Overview of correlation between different variables.

	Training	Sales history	Account manager	Market manager	Support	Sales	Management	ΔGK #1	ΔGK #2	ΔSK
Training	1.000									
Sales experience	-.246	1.000								
Account	.145	.114*	1.000							
Market Manager	-.157	.166	-.131	1.000						
Support	.009	-.611***	-.367**	-.312*	1.000					
Sales	-.067	.499***	-.196	-.167	-.468***	1.000				
Management	.067	.055	-.131	-.111	-.312*	-.167	1.000			
ΔGK #1	.404**	-.270	-.045	.045	.148	-.102	-.103	1.000		
ΔGK #2	.334**	.025	.103	.052	-.059	-.166	.151	.297	1.000	
ΔSK	.073*	-.034	-.006	.036	-.030	-.204	.293	.018	.477***	1.000

*0.1 **0.05***0.01

ANOVA-analyses of the means of both specialist knowledge and generalist knowledge measures showed that their means significantly differ with significant values of respectively 0.003, 0.039 and 0.243. So the generalist knowledge values differ, while the specialist seems to be equal using a P-value cutoff value of 0.01 over the population. Further analysis of the different types of employees showed that the management has lower specialist knowledge than the other types of employees, but scores higher on the scale of generalist knowledge (see table 10). Other observable items are the high specialist knowledge of the market managers and low scores of them on generalist knowledge; it supports the expectation that market managers have more specialist knowledge than generalist knowledge.

Table 10, Overview of different employees and their difference

Type employee	N	Mean specialist knowledge	Mean generalist knowledge #1	Mean generalist knowledge #2
Account management	4	.555	.294	.530
Market management	2	1.049	-.595	.534
Support	15	-.155	-.583	.545
Sales	6	.814	.112	.592
Management	3	-1.466	1.409	.702

Regressions

Based on the methodology as described in Chapter 3, models 1 and 2 were regressed (see Table 11). Only the regressions of training on generalist knowledge (1, 3 and 4) are significant with a positive coefficient and R-squared values of respectively 16.3%, 11.1% and 13.7%. In regressions 1 and 3 only training was involved and significant, while regression 4 also included other non-significant variables. The other regressions in Table 12 (e.g. specialist knowledge) did not show notable further findings.

Table 11, Overview of regressions

Overview regressions with standardized betas, regressions 1, 3 and 5 only include training on the different knowledge levels while regression 2, 4 and 6 also entail the moderating effect of sales experience.

	ΔGeneralist knowledge using survey construct				ΔGeneralist knowledge using knowledge ranking				ΔSpecialist knowledge using survey construct			
	(1)		(2)		(3)		(4)		(5)		(6)	
	Coef.	T-stat	Coef.	T-stat	Coef.	T-stat	Coef.	T-stat	Coef.	T-stat	Coef.	T-stat
Training	.404	2.338	.353	1.959	.334*	1.872	.368*	1.953	.073	.385	.054	.277
Sales experience			-.314	-1.183			.242	.876			-.321	-1.125
Training x sales experience			.176	.678			-.172	-.634			.407	1.452
Constant	.000	-.331	.000	.832	.000	.740	.000	-.363	.000	-.952	.000	-.452
Type of employee	No		No		No		No		No		No	
R-squared	16.3%		20.8%		11.1%		13.7%		0.5%		8.0%	
N	30		30		30		30		30		30	

*0.1 **0.05***0.01

The second part of the regressions was based on the regressions 3 and 4 (see Chapter 3). These regressions included the type of employee. As seen in Table 12, the regressions for generalist knowledge (1-4) are not significant, so conclusions could not be drawn based on them.

The other product knowledge dimension, the self-reporting specialist knowledge showed no surprising results. As seen in regression 5 and 6, specialist knowledge decrease differs for each type of employee. In the case of general management, the decrease is significant with an interaction effect of -1.440 for regression 5, so training will decrease the specialist knowledge of general managers involved in the training. Finally, regression 6 included the sales experience, which is not significant and does not have an impact on the other regressions. Also in regression 6 a decrease of -1.279 of general management by training is visible.

Table 12, Overview of regressions

Overview regressions with standardized betas, regressions include sales experience and different types of employees. Regression 1, 3 and 5 include only training and employee type. Regressions 2, 4 and 6 also include sales experience as independent variable.

	ΔGeneralist knowledge using survey construct				ΔGeneralist knowledge using knowledge ranking				ΔSpecialist knowledge using survey construct			
	(1)		(2)		(3)		(4)		(5)		(6)	
	Coef.	T-stat	Coef.	T-stat	Coef.	T-stat	Coef.	T-stat	Coef.	T-stat	Coef.	T-stat
Training	.482	.680	.642	.814	-.075	-.509	-.221	-.306	-1.359	-2.246	-1.050	-1.609
Sales experience	-	-	-.462	-.789	-	-	.042	.078	-	-	-.301	-.622
Sales experience x training	-	.352	2.180	.717	-	-	.108	.240	-	-	.464	1.143
Sales employee	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Support	.278	.743	-.163	.240	-.138	-.406	-.098	-.158	.483	1.514	.196	.348
Account management	-.167	-.402	-.272	-.602	.157	.414	.166	.402	.310	.874	.242	.649
Market management	.107	.374	.098	.283	.280	1.058	.282	1.017	.344	1.391	.329	1.317
General management	.041	.113	-.120	-.278	.654	1.955	.668	1.688	1.253***	3.998	1.148***	3.210
Sales x training	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Support x training	-.179	-.457	.168	.274	.334	.941	.403	.720	-.454	1.365	-.060	-.120
Account Management x training	.136	.275	.241	.455	.000	.000	.022	.046	-.379	-.900	-.256	-.585
Market management x training	.133	.303	.166	.347	-.290	-.747	-.220	-.501	-.339	-.905	-.180	-.454
General Management x training	-.196	-.408	-.026	-.048	-.685	-1.566	-.670	-1.347	-1.440***	3.514	-1.279**	-2.884
Constant	.000	-.085	.000	-.201	.000	1.689	.000	1.487	.000**	2.560	.000**	2.602
Type of employee	No		No		No		No		No		No	
R-squared	25.0%		27.5%		37.9%		39.1%		45.4%		50.4%	
N	30		30		30		30		30		30	

*0.1 **0.05 ***0.01

4.3 Interpretation of results

The first study focused on the underlying effects of cross-selling. The validity of SEM-model allowed to draw conclusions. As discussed in Chapter 2, several underlying effects were expected, based on Malms & Schmitz (2011). The relationships between cross-sell motivation and cross-sell success (H₁) were not significant enough to allow conclusions to be drawn. The relationships between cross-sell readiness and cross-sell success (H₂), and motivation and cross-sell readiness (H₃) have coefficients of respectively 0.319/0.485 and 0.805/0.797. The correlations showed that higher cross-sell motivation results in higher readiness and more cross-sell success, which is in line with the expectations. Furthermore, hypothesis H_{9b}, that specialist knowledge does not affect cross-sell readiness, is supported. Other effects, such as CRM usage (H₄/H₅) and experience (H₆), were not significant enough to allow conclusions to be drawn.

The extension of the model with the separation of knowledge into generalist and specialist knowledge does not fit the results. Only specialist knowledge and cross-sell motivation (H_{7b}) show a significant relation of around 0.44. Besides the supported hypotheses, the other supported relationships of study 1 were not met: generalist knowledge does not have a significant impact on cross-sell motivation (H_{7a}) and the effect of cross-sell readiness on cross-sell success is not significant (H_{8a}). Also, explorative moderation of the model did not add new findings.

In contrast to the first study, the second study focused on the effect of training on product knowledge. As seen in Table 11, training does result in an increase of around 0.50 and 0.80 for respectively measure 1 and 2 of generalist knowledge, while specialist knowledge will not be influenced. These findings support H_{9a} and H_{9b}. The other regression included the type of employee. In the case of generalist knowledge, this inclusion did not have an impact: none of the variables are significant, which supports the expectation that the generalist knowledge of the account manager would not be affected (H_{10a}). In the case of specialist knowledge, the relation with training was originally non-significant, while in the model including the employees it is, with values of -1.359 and -1.050. These negative effects do not match the expected effect of training (H_{10b} and H_{10d}). Finally, sales experience (H₁₁) is proven not to have an effect on the differences in product knowledge.

The findings and implications of both studies will be discussed more extensively in chapter 5 and 6, in which the results will be interpreted and judged on theoretical as well as practical relevance.

5. Discussion

The thesis focused on how different product knowledge levels have an effect on cross-selling and on the role of training as knowledge transfer mechanism within organizations. The study has produced many results. Based on the showcase of these results in Chapter 4, this chapter will focus on the interpretation and on the importance and relevance of the results of both studies.

5.1 Findings of studies

The most important findings are the supported relationships between cross-sell motivation and cross-sell success, cross-sell motivation and cross-sell readiness. The first two relationships already possessed a theoretical background in the form of the paper by Malms & Schmitz (2011), while the third supported relationship, between specialist knowledge and cross-sell motivation, is new to the literature.

The relationship between specialist knowledge and cross-sell motivation can be explained by the in-depth knowledge of employees in that category. They know relatively well which products fit the customer needs and they are eager to use this knowledge in sales situations (Akçura & Srinivasan, 2005). Specialists are motivated to cross-sell, since they know how to help customers (Román et al., 2002). In-depth knowledge enlarges the motivation of sales employees to use their knowledge during the cross-selling process. Since they have knowledge of the product characteristics and know how they can fit the customer needs, the sales employees with specialist knowledge are relatively motivated to cross-sell (Zoltners et al., 2006).

The second study supported the expected relationship between training and generalist knowledge (H_{9a}). Specialist knowledge is negatively significant in the regressions that involved the sales employees. According to the hypotheses, this difference was unexpected. No possible factors that could have decreased the specialist knowledge showed up. One explanation could be the development in which employees start to feel more generalist than specialist during the training. Therefore, they could have filled in the survey more conservatively at the second point of measurement. Finally, the effect of sales experience was not significant (H_{11}), which was an unforeseen result since as it was related to knowledge of existing (sales) situations and knowledge of it in their mental scheme (Sujan et al., 1988).

The results of the two studies can be plotted in the original expected model as discussed in the hypothesis section. As seen in figure 5, all relations are given with their significance. The first part of the model (study 1) is based on the results of cross-sell success measure 1. The second part is based on complete regressions 5 and 6 as shown in table 11 and 12.

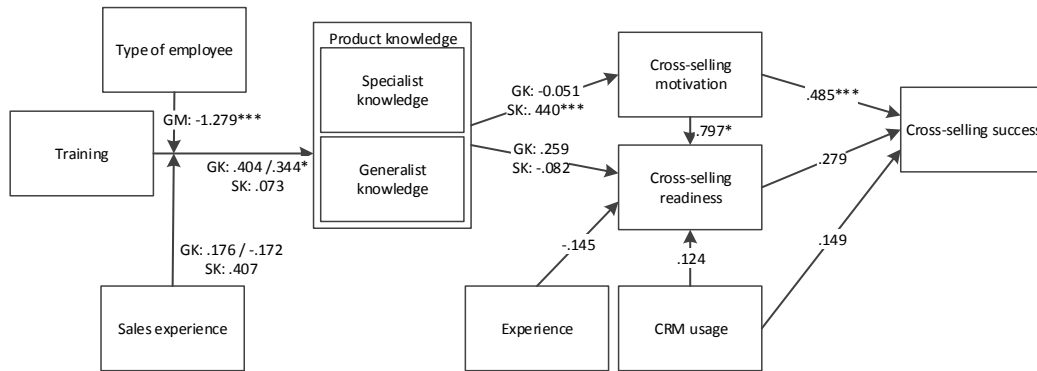


Figure 5, Overview of results study

Overview of the model with the correlations out of the different studies. For some relations, it gave the correlation for generalist knowledge (GK) and specialist knowledge (SK) significance with *0.1 **0.05***0.01

Overall, the results show that firms should focus on the cross-sell motivation of their employees. The improvement of motivation is probable to have a positive effect on the cross-sell readiness as well as on the cross-sell success. Since the sample size is small, there may be some difficulty to generalize the conclusions. However, if this relationship is confirmed, firms should put emphasis on the motivation of their sales employees.

6. Conclusion

Based on the combined results of the two studies, several conclusions can be drawn. Some findings will be discussed theoretically in 6.1, followed by the managerial implications they entail (6.2). Finally, the limitations and possibilities for further research will be discussed in 6.3.

6.1 Theoretical contribution

Theoretically, there are different implications, but the limitations as discussed in Chapter 5 should be taken into consideration. The first study focused on the model of Malms & Schmitz (2011). The separation of product knowledge into generalist and specialist knowledge is an addition to the literature and theoretical frameworks (e.g. Malms & Schmitz, 2011; Weitz, 1981).

The first contribution and confirmation is that the relation between cross-sell motivation and cross-sell success and the relation between cross-sell motivation and cross-sell readiness were significant, which supported existing literature. The other significant factor, specialist knowledge on cross-sell motivation, was neither in the original model nor in the model of Malms & Schmitz (2011).

Secondly, the second study confirms the effect of training on product knowledge as described by Román et al. (2002). Training has an impact on the different types of product knowledge and sales employees as discussed by Zoltners et al. (2006). The expectation was that training would result in an increase of generalist knowledge, a broader view of the different products. The findings of the study support this and show that generalist knowledge is increased by training. Training can thus be seen as an appropriate mechanism to increase the overview of the products, while it will not affect the specialist knowledge. This supports the idea of the knowledge structure as discussed by Suján et al. (1988). Finally, the sales experience will not affect training results: this is new to the literature, since literature regards experience as a form of declarative knowledge (Campbell, McCloy, Oppler, & Sager, 1993).

Lastly, the study contributes his combination of both training, types of knowledge and cross-sell performance, which is to the literature: training can be useful to increase generalist knowledge, while the role of specialist knowledge remains important yet underrepresented in study 2. This is a contribution to the article of Shah and Kumar (2012), which describes the different types of employees during the sales process. Academically, emphasis on specialist knowledge or in-depth

knowledge may be interesting, since in most literature only generalist knowledge is seen as an influential on cross-selling, while other concepts as specialist knowledge, motivation and cross-sell readiness are also crucial for its success.

6.2 Managerial implications

The study focused on two main topics: the influence of different knowledge levels on cross-sell performances and the effect of general training on product knowledge. Managers can use this knowledge in their decision to allocate resources for knowledge sharing and training.

The first implication is that managers should focus on the motivation to cross-sell. They can stimulate this by enabling the employees' possession of specialist knowledge, but also by setting clear cross-selling goals. Motivation of the employees is positively related to their readiness when encountering opportunities and it has a direct effect on the cross-sell success.

Secondly, managers should be aware of the effect of training on the cross-sell performances. The second study shows that training does result in an increase of generalist knowledge of the sales employees, but that it does not incite a significant increase of specialist knowledge. The specific training as used in this study can cause improvement of generalist knowledge, but it does not result in an improvement of in-depth knowledge, which also plays a role during cross-selling.

Thirdly and finally, managers should pay attention to the design of the training, since especially specialist knowledge plays an important role in cross-selling. To do this, other forms of knowledge transfer can be used, for example case studies. More in-depth information will help to match customers' needs with cross-sell opportunities. This will also have impact on employees' motivation, which is positively related to cross-sell motivation and readiness.

6.3 Limitations and further research

The scope, size, external effects and time limited both studies. Firstly, the scope was a limitation since the study was done at a technical firm, with mainly a Dutch culture. The study was held at one firm, so it can be difficult to generalize its results. It is highly likeable that other effects besides culture, size of the firm and the industry in which CM operates, are present.

Secondly, the size was a limitation. The study focused on two groups: a small group of 35 people in the first study and 30 people in the second study. The SEM-PLS required at least 50

participants while for the regression, at least 30 observations were required (Hair et al., 2006). The shortcoming of the small size was overcome by the method of SEM-PLS, since it can handle small sizes. However, the size (also for subsamples) was still too small to allow conclusions to be drawn. The small size in both studies resulted in difficulty when it comes to generalizing the significance and the results. Not all outcomes of the tests are as reliable as necessary.

Statistically, there were also some limitations. The SEM-PLS is an appropriate method for small sized studies with little theory present (Wong, 2013). However, SEM-PLS has weaknesses: high-valued structural path coefficients are needed with a small sample size, multicollinearity can be present, undirected correlation cannot be modelled and it may include biased estimations by lack of complete scores (Wong, 2013). This limitation was present because of the small size. If more data had been present, the SEM method would have provided improved results.

During the execution of the studies, some unexpected activities occurred, which could possibly have resulted in troubled data. CM undertook an acquisition, which resulted in more focus of some employees on the product portfolio, since they should elaborate on this when getting in touch with the acquired firm. For a selection of the sales employees, this resulted in increased attention towards the broad portfolio of CM.

The subjectivity of the survey questions of which the study partly exists can be considered to have been another limitation. It is possible that the sales employees have expressed extremely positive or negative opinions, which they do not fully support in reality. Study 2 includes a representation of their perceived product knowledge, not how they present and know the different products. This shortcoming could have been overcome by the use of more objective data (for example objective sales experience, cross-sell data out of the CRM system). However, this data was not shared in this study.

Finally, the training in study 2 focused on generalist issues, such as the product characteristics and how products fit the market. This form of training could prove too narrow. Unfortunately, other forms of training were not used in this thesis, which can be considered a limitation. Also, the indication that training reduces specialist knowledge may be considered to be strange. A possible explanation can be that the training gave employees the idea that they are more generalist than specialist, which might have affected the results of survey 2.

Further research

The research contains several limitations, mainly created by its size: the study focuses on one firm which focused on the B2B market. Further research could overcome this narrowness in the research by focusing on the impact of product knowledge on firms in other markets and cultures.

Further research could focus on a more objective measurement. More time could be used to investigate the knowledge differences between employees or to integrate objective measures (e.g. historic cross-sell data or CRM usage statistics). The inclusion of firms able to provide such data could improve reliability as well as the possibility to generalize the conclusions.

Doing a replication research could help to validate the findings and to see whether the results can be generalized to other markets (e.g. more consumer driven markets), countries and cultures. Another possible subject for further research is the role of customer orientation, since it is closely associated with the cross-sell readiness (Attia, Honeycutt, & Jantan, 2008). A focus on the role of customer orientation could be an interesting elaboration of the framework. This could optionally be added to the model between cross-sell readiness and generalist knowledge.

Furthermore, the role of training could be scoped more thoroughly. The training mainly focused on generalist characteristics in this case. Other forms of training and learning (e.g. case studies, virtual learning or focus groups) could make up directions for further research.

Academically, the role of specialist knowledge in cross-selling can be seen as new to the literature. Focus on how this knowledge affects cross-selling in further research may be an interesting opportunity since the study of this separation has not been practiced before.

Cross-selling is an important mechanism for firms. It can help them to enlarge their value on the long term (Shah & Kumar, 2012). A different focus in further research could display possibilities to improve cross-selling on firm as well as on individual level. Further research would help firms to validate the influence of training, the influence of generalist and specialist knowledge as well the influence of different underlying mechanisms, such as CRM usage, on cross-sell success. Eventually, the investigation of cross-selling could be elaborated to other firms or could be replicated with the inclusion of more respondents. Also, additional factors that influence the cross-sell process could be tested. That way, it would be possible to achieve an even clearer view of the underlying factors of cross-sell practices and the effect training has on them.

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Appendix A: Survey employees at t₁

Sales experience

What kind of product(s) did you sell last year?

SMS products	<input type="checkbox"/>	Flexdoneren	<input type="checkbox"/>
Push product	<input type="checkbox"/>	Payment Service Provider	<input type="checkbox"/>
Hybrid messaging	<input type="checkbox"/>	SIP trunk	<input type="checkbox"/>
One-time-passwords	<input type="checkbox"/>	Service numbers	<input type="checkbox"/>
Premium SMS?	<input type="checkbox"/>	Voice notification	<input type="checkbox"/>
Direct Carrier Billing	<input type="checkbox"/>	App development	<input type="checkbox"/>
Microincasso	<input type="checkbox"/>		

Generalist knowledge #1

How much do you know about products? (give a grade between 1-10)

- How much do you know about the messaging division?
 - o How much do you know about SMS?
 - o How much do you know about push?
 - o How much do you know about hybrid solutions?
 - o How much do you know about one-time-passwords (OTP)?
- How much do you know about payment solutions?
 - o How much do you know about premium SMS?
 - o How much do you know about Direct Carrier Billing?
 - o How much do you know about Microincasso?
 - o How much do you know about Flexdoneren?
- How much do you know about the payments service provider?
- How much do you know about voice?
 - o How much do you know about SIP trunk?
 - o How much do you know about service numbers?
 - o How much do you know about voice notification?
- How much do you know about app development?

Generalist knowledge #2 (Likert scale 1-7)

- *I have a broad knowledge of the different products.*
- *I have sold products of various categories.*
- *I know which products are present within the organization.*
- *I know which products can be used in different situations.*
- *If a customer has some needs, I know which products can be relevant for him/her.*
- *I can focus on needs of a customer and I'm able to recognize potential products I can sell.*

Specialist knowledge (Likert scale 1-7)

- *I tend to know all ins-and-outs about the products that I sell, rather than just their general characteristics.*
- *I have specialist knowledge of different products.*
- *I know more about some products than other products.*
- *I am a specialist in some fields.*
- *I know the specific values of products and how they fit the needs of customers.*
- *I know the advantages, characteristics and benefits of a selection of the products.*
- *People tend to come to me if they have special questions about products*

Cross-selling motivation (Sujan et al., 1994) (Likert scale 1–7)

- *Offering customers additional products from other divisions can be important.*
- *Sales persons should take responsibility for optimal solutions for their customers.*
- *I feel good about providing customers additional products.*
- *Offering customers additional products fascinates me.*

Cross-selling readiness (Malms & Schmitz, 2011) (Likert scale 1–7)

- *I feel confident about offering products not being sold within my division.*
- *I can easily modify my sales presentation if customers ask for additional products.*
- *I am very flexible in offering a wide range of different products and services depending on my customer's needs.*
- *I feel very insecure in offering a wide range of different products and services, if they are not from my division.*

CRM usage (Likert scale 1–7) (partly based on Becker, Greve, & Albers, 2009)

- *CRM is a major part of my business operations.*
- *Before I contact a customer, I will look up the customer in the CRM system.*
- *I actively log customer activities in the CRM system.*
- *I often use CRM systems to get extra information about the customer.*
- *I add an average of three items per day to the CRM system.*

Cross-selling success #1 (Schäfer, 2002) (Likert scale 1–7)

- *I already cover our customers' needs for additional products on a broad basis.*
- *In most cases my customers obtain additional products they require from us.*
- *Our customers purchase most additional products I offer.*
- *I extensively exploit the customers' potential with regard to additional products.*
- *I am planning to increase the cross-sell offers*

Cross-selling success #2 (Likert scale 1–7)

- *I did cross-sell different products last month.*
- *I successfully advised related products to existing customers last month.*
- *Customers are interested in products I advise.*

Demographics

- What is your gender [M/W]?
- What is your age? [Fill in]
- What is your highest level of education?
 - o Middelbaar beroepsonderwijs (mbo)
 - o Hoger beroepsonderwijs (hbo)
 - o Wetenschappelijk onderwijs (wo)
 - o Other [Fill in]
 - o No answer
- How many years are you working for CM?[Fill in]
- What function do you have at CM?

Appendix B: Survey employees at t₂

Generalist knowledge #1: *How much do you know about products? (give a grade between 1-10)*

- How much do you know about the messaging division?
 - o How much do you know about SMS?
 - o How much do you know about push?
 - o How much do you know about hybrid solutions?
 - o How much do you know about one-time-passwords (OTP)?
- How much do you know about payment solutions?
 - o How much do you know about premium SMS?
 - o How much do you know about Direct Carrier Billing?
 - o How much do you know about Microincasso?
 - o How much do you know about Flexdoneren?
- How much do you know about the payments service provider?
- How much do you know about voice?
 - o How much do you know about SIP trunk?
 - o How much do you know about service numbers?
 - o How much do you know about voice notification?
- How much do you know about app development?

Generalist knowledge #2 (Likert scale 1-7)

- *I have a broad knowledge of the different products.*
- *I have sold products of various categories.*
- *I know which products are present within the organization.*
- *I know which products can be used in different situations.*
- *If a customer has some needs, I know which products can be relevant for him/her.*
- *I can focus on needs of a customer and I'm able to recognize potential products I can sell.*

Specialist knowledge (Likert scale 1-7)

- *I tend to know all ins-and-outs about the products that I sell, rather than just their general characteristics.*
- *I have specialist knowledge of different products.*
- *I know more about some products than other products.*
- *I am a specialist in some fields.*

- *I know the specific values of products and how they fit the needs of customers.*
- *I know the advantages, characteristics and benefits of a selection of the products.*
- *People tend to come to me if they have special questions about products*

Cross-selling motivation (Sujan et al., 1994) (Likert scale 1–7)

- *Offering customers additional products from other divisions can be important.*
- *Sales persons should take responsibility for optimal solutions for their customers.*
- *I feel good about providing customers additional products.*
- *Offering customers additional products fascinates me.*

Cross-selling readiness (Malms & Schmitz, 2011) (Likert scale 1–7)

- *I feel confident about offering products not being sold within my division.*
- *I can easily modify my sales presentation if customers ask for additional products.*
- *I am very flexible in offering a wide range of different products and services depending on my customer's needs.*
- *I feel very insecure in offering a wide range of different products and services, if they are not from my division.*

CRM usage (Likert scale 1–7) (partly based on Becker, Greve, & Albers, 2009)

- *CRM is a major part of my business operations.*
- *Before I contact a customer, I will look up the customer in the CRM system.*
- *I actively log customer activities in the CRM system.*
- *I often use CRM systems to get extra information about the customer.*
- *I add an average of three items per day to the CRM system.*

Cross-selling success measure 1 (Schäfer, 2002) (Likert scale 1–7)

- *I already cover our customers' needs for additional products on a broad basis.*
- *In most cases my customers obtain additional products they require from us.*
- *Our customers purchase most additional products I offer.*
- *I extensively exploit the customers' potential with regard to additional products.*
- *I am planning to increase the cross-sell offers*

Cross-selling success measure 2 (Likert scale 1–7)

- *I did cross-sell different products last month.*
- *I successfully advised related products to existing customers last month.*
- *Customers are interested in products I advise.*

Appendix C: Survey for sales supervisors at study 1 (graded 1-10)

Employee	Score generalist knowledge	Score specialist knowledge

Appendix D: Results factor analysis

Table 13, Results factor analysis

Variable	Factor 1: Generalist knowledge	Factor 2: Specialist knowledge
Generalist knowledge 1	.683	
Generalist knowledge 2	.766	
Generalist knowledge 3	.681	
Generalist knowledge 4	.863	
Generalist knowledge 5	.878	
Generalist knowledge 6	.858	
Specialist knowledge 1	.411	.623
Specialist knowledge 2	.356	.720
Specialist knowledge 3		.838
Specialist knowledge 4		.901
Specialist knowledge 5	.810	
Specialist knowledge 6	.712	.374
Specialist knowledge 7	.314	.708

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.

Appendix E: Tests for normality (no transformations)

Table 14, Overview of normality tests

Overview constructs with cross-sell motivation (CM), cross-sell readiness (CR), CRM usage (CRM) and two cross-sell success measures (CS1 and CS2).

	Skewness			Kurtosis		
	Statistic	Std. Error	Z-score	Statistic	Std. Error	Z-score
CM_1	-1.347	.403	3.34*	1.869	.788	2.37*
CM_2	-1.039	.398	2.61*	1.105	.778	1.42
CM_3	-.797	.398	2.00*	-.323	.778	.42
CM_4	-.781	.398	1.96*	-.502	.778	.65
CR_1	-.266	.398	.67	-1.156	.778	1.49
CR_2	-.031	.398	.08	-.919	.778	1.18
CR_3	-.59	.398	1.48	-.268	.778	.34
CR_4	.24	.398	.60	-.889	.778	1.14
CRM_1	-.95	.398	2.39*	.842	.778	1.08
CRM_2	-1.611	.398	4.05*	2.716	.778	3.49*
CRM_3	-.609	.398	1.53	-.521	.778	.67
CRM_4	-1.397	.398	3.51*	2.197	.778	2.82*
CRM_5	-.138	.398	.35	-1.581	.778	2.03*
CS1_1	-.227	.398	.57	.545	.778	.70
CS1_2	-.54	.398	1.36	-.238	.778	.31
CS1_3	-.318	.398	.80	-.519	.778	.67
CS1_4	-.038	.398	.10	-.818	.778	1.05
CS1_5	-.714	.398	1.79	-.154	.778	.20
CS2_1	-.238	.398	.60	-1.339	.778	1.72
CS2_2	-.706	.398	1.77	-.353	.778	.45
CS2_3	-1.105	.398	2.78*	.455	.778	.58
Experience	1.584	.398	3.98*	2.48	.778	3.19*
Genealist knowledge	-.629	.398	-1.58	-.492	.778	-.63
K: MGT						
SK: MGT	-.202	.398	-.51	-.556	.778	-.71

* non-significant with $p \leq 0.05$

Appendix F: Overview SEM models

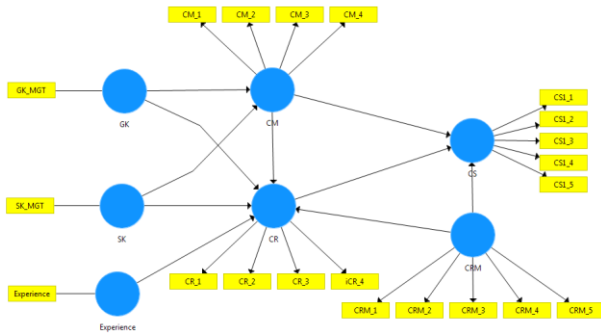


Figure 6, SEM model using cross-sell measure 1

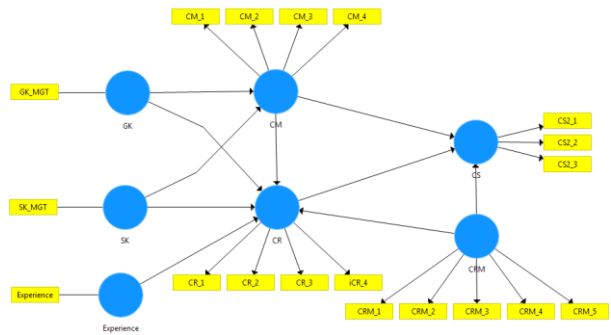


Figure 7, SEM model using cross-sell measure 2

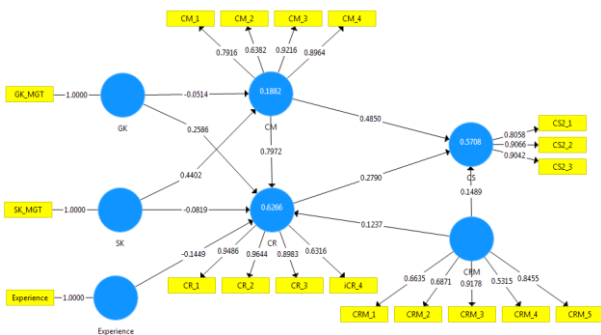


Figure 8, Results PLS-SEM using cross-sell measure 1

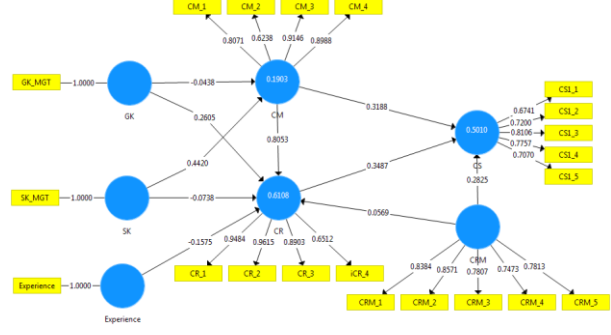


Figure 9, Results PLS-SEM using cross-sell measure 2

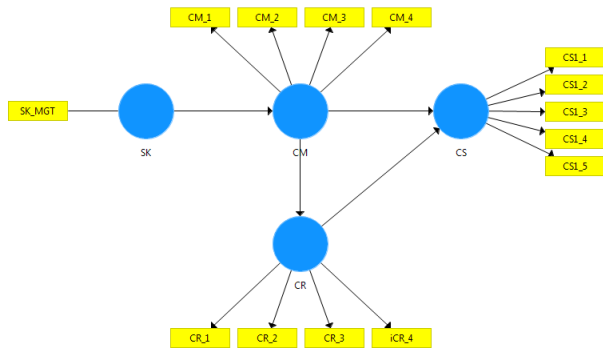


Figure 10, Moderated PLS-SEM model

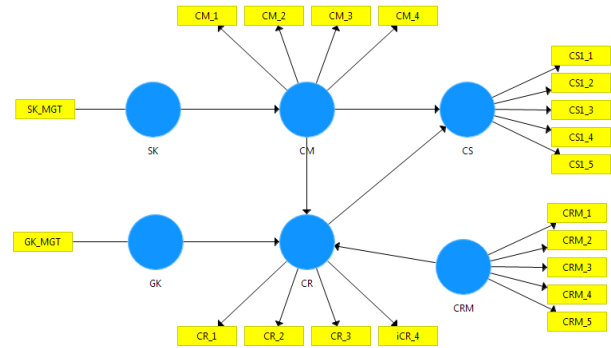


Figure 11, Optional moderated PLS-SEM model