

MASTER

What drives the processing time of online-generated leads?

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Eindhoven, 28 September 2014

What drives the processing time of online-generated leads?

by
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In partial fulfilment of the requirements for the degree of

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Abstract

Purpose: the purpose of this thesis is to gather a deeper understanding of which elements influence the processing time of the first follow-up when an online-generated lead enters a B2B-company. Furthermore, this study aimed to accelerate the processing time through providing several recommendations for the lead presentation system. Existing literature has examined the sales process, but studies related to the processing time of leads or online leads in general are limited.

Design/methodology/approach: Nonparametric analyses were used to test the hypotheses. The data for the study is gathered from CM, their sales representatives and leads are used. The sales representatives participated in an online-self-administered questionnaire, resulting in 19 respondents (65,5%). The online-generated leads were gathered through a lead processing system, providing 473 pursued leads from April 2014 till June 2014. The outcomes of the Spearman's rank-order correlation and the survey served as input for the improvement of the lead processing system.

Findings: the analyses show that the presence of certain lead characteristics, managerial tracking and lead volume do decrease the time before a lead is followed-up, and they thereby hasten the processing of online-generated leads. In addition, the study highlighted which workflow systems would be most appropriate for lead processing.

Limitations: The limitations of the study are mainly concerned with the consequences of a small sample size. One important limitation is that the small amount of participants caused that the variables were not normally distributed and nonparametric analyses needed to be conducted.

Practical implications: Organisations should be aware of what information they try to extract from potential customers, which lead characteristics they gather. To accelerate the follow-up this gathered information should be related to the success potential, the knowledge and the urgency of the lead. Furthermore, they should be aware of how they supervise the follow-up and which workflow system is implemented in order to achieve a faster processing time of the leads.

Preface

This report is part of my Master Thesis Project for the Master Innovation Management at the Eindhoven University of Technology. This thesis is supervised by Ad de Jong, employed at the Innovation, Technology Entrepreneurship and Marketing (ITEM) Group and by Irene Vanderfeesten, employed at the Information Systems Group. This graduation project is conducted at the company CM between March 2014 and September 2014.

During the past six months I have combined my interest for customer service and sales with the excitement that comes along with product development. Throughout these months, I have learned quite a lot of interesting things concerning SMS, Mobile marketing, Security and Mobile payments. In addition, I discovered new things related to doing business and working for an international organisation. Furthermore, I have experienced that graduating in Innovation Management is about finding a balance between science and practice. This report is the result of my six months of experience in combining my interests, organisational learning and graduating.

I would like to thank several people for their support during my graduation. From the Eindhoven University of Technology, I want to especially thank my first supervisor, Ad de Jong, for all his support, guidance, knowledge and feedback during the entire graduation process. In addition, my thanks go to Irene Vanderfeesten, my second supervisor, for her input, encouragement and feedback throughout the final phase of my study.

Furthermore, I want to thank all of my colleagues at CM for their contribution and help with my master thesis project. It was a great experience to become familiar with you and the organisation, you all made graduating more fun and sociable. In particular, I want to express my thanks to Gilbert Gooijers, my supervisor at CM. Thank you for your input, collaboration, refreshing point of views and the opportunity to combine my graduation with an internship at CM.

Finally, thanks should also be expressed to my friends and family for their support during my entire education, but particularly during my master thesis project. Special thanks for Giel, Hermien and Gijs because they endured all my moods.

Janneke Martens

Breda, 28 September 2014

Executive summary

Organisations are increasingly deploying the possibilities that the online environment offers to manage the changes of the current century. The business-to-business organisations are enlarging their businesses towards online environments. This century, organisations are (just as consumers) searching, selling, and buying items online. The online selling process for organisations differs from the offline selling process and therefore brings challenges to the concerning organisations. The difference can among others be found in the fast and always active online environment requiring a fast follow-up of the lead. The online environment has potential customers who are looking for the solution that best fits their needs at multiple organisations. For these selling organisations it is a necessity to react quickly such that the lead does not become a customer at another organisation. Another challenge is that a sales representative has less insight in purchase process of the potential customer and how these leads can best be approached (Trailer & Dickie, 2006). This study examines the follow-up of online-generated leads in the business-to-business market. It examines what drives a sales representative to pursue a lead. To be precise, this study investigates what influences the processing time of leads and how the processing time of online-generated leads could be reduced to fit the fast online environment.

Research

The study was conducted inside CM. CM is a medium-sized company with approximately 130 employees. The organisation operates in corporate mobile messaging and mobile payments in the business-to-business market. With the aid of an internal lead processing system information on 689 leads was gathered. Furthermore, 29 employees involved with the processing of online leads were asked to participate in an online questionnaire. The survey was completed by 19 employees, yielding a response rate of 65,5%. The data gathered from these two sources was merged to one dataset. The dataset was validated and checked for its reliability with the aid of a factor analysis and Cronbach's α . Furthermore, a nonparametric measure (Spearman's rank-order correlation) was used to test the hypotheses corresponding to the conceptual model for the quantitative analysis. The theoretical framework tested whether or not prequalification, lead characteristics, managerial tracking, generated volume and ability & tooling influenced the processing time of an online generated lead. The tested conceptual model and the corresponding hypothesis are displayed in Figure 9. The final two propositions related to workflow systems (lead presentation) were tested with the use of a qualitative examination, namely open questions in the survey. It was examined whether or not certain lead presentation techniques influenced the processing time of online generated leads. The visualization of these 2 propositions is included in Figure 11.

Findings

The Spearman's correlation showed that 3 of the 4 hypotheses concerning the direct relation with the processing time of leads were significant. Certain lead characteristics, the degree of managerial tracking and higher amounts of generated lead volume do decrease the time before a lead is followed-up. However, in contradiction with other literature there was no significant influence of prequalification on the processing time of leads. Furthermore, it is found that drivers under high response related tooling have higher negative coefficients and thus stronger reduce the processing time of leads than under low response related tooling use. For most drivers, it is not statistically determined that under high tooling effects (response or representative tooling) these drivers are statistically stronger than under low tooling. Furthermore, the participants indicated that a predetermined lead presentation is preferred in combination with a self-determined follow-up order. So, a fixed overview to start with and the overview should leave the flexibility to select the lead to be followed-up.

Managerial implications

The study showed four interesting aspects from a managerial perspective. First, the qualitative results showed that managerial involvement does motivate sales representatives to quicker follow-up leads. Second, the study showed that a central lead overview providing an overview of all incoming leads is preferred above leads shown in an individual work environment such as an inbox. Third, a central lead system offers the organisation more insight in the behaviour of a potential customer. This contributes to insight in which websites the lead visited and what information he is searching for. The fourth and final relevant outcome of this study is that it offers the organisation insight in which information is relevant to extract from a lead. It indicates which lead characteristics contribute to a faster processing time. It is found that information concerning the time urgency that the lead has and the knowledge it possesses related to the product are important characteristics to reduce the processing time. In addition, it is found that information concerning the source of the lead and the decision authority of the prospect also contributes to a processing time reduction.

Limitations and future research

This thesis has several limitations. The main restriction is the small sample size of the involved lead employees. The number of employees that participated in the survey was below 20. The reliability and the validation of the measured constructs would have been better when the sample size was larger. Other points of improvement are related to the questionnaire, the survey would have been more reliable when all items were validated in other studies or were specifically applicable for only online-generated leads. Furthermore, the part of the study focussed on workflow systems was concise. Future research could therefore be a more in-depth examination of the influence of workflow systems on the processing time of leads.

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1. Introduction

Today, change is the rule rather than the exception. Each day several innovations arise and each day people are starting to use new technologies. This fast changing environment requires flexibility and adaptability from consumers as well as vendors. A method to manage the changes is through an online environment. This setting offers several possibilities to gain and/or offer information to a specific community or to the entire world. The last couple of years, vendors have started selling products and services over the Internet besides just spreading information. Organisations started to offer their products and services online to handle the fast adjustments, but also to enlarge their accessibility. The organisations that are active online may also be active vendors in the offline environment. Furthermore, they can participate in the business-to-consumer (B2C) market or in the business-to-business (B2B) market. Since organisations are active through so many channels, they have a wide sales funnel. Meaning that a lot of potential customers come across the organisation, however the conversion rate to an actual customer is low. Organisations therefore aim to equalize the sales funnel, under the condition that it does not increase the work pressure. Indicating that, besides equalization, automation is required.

The online sales process deviates from the offline sales process in several aspects. Therefore, it raises difficulties for the organisations in how to arrange these processes. For example, the online sales process disables the organisation to obtain a good insight in the customers' purchasing process (Trailer & Dickie, 2006). During an offline sales process there is more feeling with the (potential) customer, the online selling hinders an organisation or sales person in making a proper assessment, the online process is more anonymous. Another difference is that the organisation is 24/7 present online and a (potential) customer can therefore always contact the company and not only during office hours (Chong, Shafagi, Woollaston, & Lui, 2009). This enables the organisation to receive leads 24/7, however the reactions towards customers is most often done during office hours. It makes that the client is forced to wait for a response, while in the offline sales process there is direct communication.

When a customer is online and interested in a product or service, he can request information or a quote by contacting the organisation through, for example, the reply form on the website (*the online-generated lead*). After which the organisation contacts the (potential) customer (*processing the lead*). This sales process eventually results in either a successful sale or a lost lead. While a potential customer is waiting for a response, he can easily find another organisation/product that suits his needs and become a customer elsewhere. Therefore, organisations that are active online are forced to process incoming leads quickly in order to generate a high turnover rate from potential to actual customer.

The described sales process is especially applicable in B2B environment. Often potential customers contact multiple suppliers or have a decision process that consists of more than

one person. This requires the vendor to actively interact with the lead to make it a customer. The sales process in the B2C environment is slightly different since online consumers can often support themselves without any interaction with the organisation before a sale is made. A previously conducted literature review showed that there is a lack of empirical studies that provide insight in the online sales process, especially the first step in processing the lead (the first follow-up).

The person performing the activities in the sales process, and therefore also the first follow-up, is the sales representative. Sabnis, Grewal, Lilien, & Chatterjee (2013) have provided insight in the time allocation of the sales person. Their article together with other studies showed that several characteristics of the organisation, the person and the lead influence the follow-up decision. However, which lead and system elements trigger a sales representative is still vague in the existing literature. It is vital to erase this gap since organisations encounter problems in effectively processing online-generated leads in the B2B context. Missing a proper lead processing system is especially problematic in the online environment, because it is the only way of interaction with the potential customers. Many online leads are received by the organisations, but very few do eventually become a customer. Organisations should have more information on how to process leads in the online context. The faster environment suggests that an important factor of leads is the time before they receive a reaction. Currently, online lead processing is a too time consuming activity and leads can become a customer somewhere else. Therefore, the aim of this thesis is to provide more insight in how the processing time of an online-generated lead is influenced and how it can be accelerated.

Insight in processing online-generated leads is especially interesting for organisations that sell their products online in the business-to-business market. They should have knowledge related to how the sales process can be managed most effectively. The organisation, especially the sales and marketing departments should know on what characteristics one should filter leads and what characteristics should be gathered from an online lead in order to accelerate the processing time. Furthermore, it would be interesting for organisations to have insight in how leads should be presented towards representatives, which workflow systems are most suitable for processing online-generated leads and what drives a faster processing time.

1.1 Research question

The objective of this study is finding the drivers for a faster processing of online-generated leads. Indicating that the study intends to provide insight to the organisation/sales representative in how the follow-up can be accelerated. Consequently, the drivers of the processing time are examined, followed by several recommendations to improve the processing time. As the conducted literature review showed, there exists a gap in the literature in the processing of leads, especially online-generated leads. This thesis aims to contribute to the existing literature in making the follow-up sales process visible and giving

insight in how this process is triggered. Academic papers have not yet examined this topic extensively and many questions are still unanswered. Furthermore, this thesis aims to contribute to the business community by making suggestions for reducing the processing time. Therefore, the main research question of this study is:

What lead and system characteristics enable an organisation, active on the business-to-business market, to faster follow-up generated leads in the online environment?

To provide a satisfying answer concerning the central issue several sub-questions are identified that can be empirical tested. When comparing the identified hiatuses from the scientific articles with the main question it is most relevant to highlight the process directly after a lead is generated, the first follow-up. Identified gaps in the literature were finding the right motivation triggers for a sales representative so that he follows-up on an online-obtained lead and discovering the specifications of leads generated online so that a sales representative pursues them. Also questions concerning the structure or benefits for the organisation of maintaining a specific sales funnel are relevant for the problem statement. The sub-questions are:

- ✓ How is online selling defined?
- ✓ What is processing of online-generated leads?
- ✓ What triggers a sales representative to quicker follow-up an online-generated lead?
- ✓ What qualities does a sales representative value of the leads generated by the marketing department?
- ✓ How should online-generated leads be matched with sales representatives in order to become more time efficient in the follow-up of those leads?

These questions address the gaps concerned with the process structure of the selling process and the requirements that leads need to possess in order to be pursued. In other words, gaps concerned with the difference between important issues concerning lead gathering (lead and person characteristics) and lead presentation (system and workflow characteristics). Therefore, this thesis aims to make the follow-up sales process visible and to provide insight in how the processing time is influenced and how it can be accelerated. This is made insightful through the use of theories and an analysis conducted of data gathered through a questionnaire. Based on the accomplished analysis this study makes several recommendations towards organizations to accelerate their current lead processing system.

1.2 Thesis outline

The residual of this master thesis discusses several aspects of the study in order to answer the research questions. The following chapter, chapter 2, provides the theoretical

background. The theoretical background gives an overview of the knowledge already identified regarding sales lead processing in an online environment. The popularity of the online B2B environment, the processing standards, the differences between online and offline sales, success factors and barriers for online lead generation are all examined. The theoretical background is the basis for the remaining parts of the research. The third chapter called “Conceptual models and hypotheses” discusses the proposed models and hypotheses, which are based on the statements made by among others Sabnis, et al. (2013), Monat (2011), and Russel, Hofstede, Edmond, & Aalst (2005). These authors discuss the specific aspects of lead follow-up by sales representatives, lead characterization, lead response time and lead presentation (workflow patterns). The methodology and results concerning the data analysis are discussed in the chapters 4 and 5 respectively. These two chapters describe the current situation within the examined organization. Furthermore, they show what factors drive the processing time of online generated leads. At last, in chapter 5 is described which (workflow) adjustments an organization could implement to further accelerate their lead processing time. The final chapter, chapter 6, includes a discussion of the results, implementations, limitations and directions for future research.

2. Theoretical background

The first sign of a (potential) customer showing interest in the company or one of its products is called a lead (Trailer & Dickie, 2006). Because of the relatively newness of the online selling environment in the business-to-business market, organisations participating have several unsolved issues. These difficulties are among others related to how a (potential) customer should be assisted when they approach the company online. The current literature concerning the processing of online-generated leads is scarce and fragmented. Therefore, this Theoretical background aims to answer the following question “How should a business-to-business company process online-generated leads?” In order to provide a good overview of the processing of online-generated leads and what is involved, a representation of the environment is provided in Figure 1. This figure serves as a guideline for the literature review and each aspect is discussed to some extent throughout this overview. First, the section called “2.1 Online selling environment” provides a more detailed overview of the online environment and what is discussed in this chapter. Second, paragraph 2.1 aims to provide an answer on what aspects are involved with conducting e-commerce in the business-to-business environment. Third, the next section highlights the literature findings related to how the online sales process is arranged. Fourth, paragraph 2.3 deviates on the sales process with a focus on what the role of the sales representative is. Fifth, section 2.40 contains a recap and attempts to answer the main question.

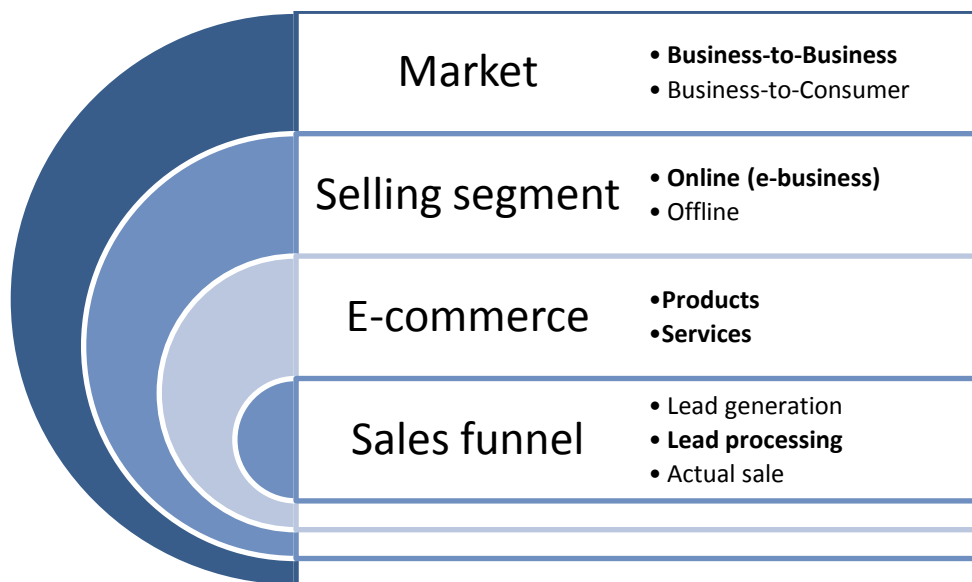


Figure 1: Online lead environment, as discussed in chapter 2

2.1 Online selling environment

After the arrival of the Internet, organisations were able to conduct e-business. Denoting that organisations suddenly were able to exchange information, perform commercial transaction and share knowledge through electronic networks (Cullen & Webster, 2007). The scope of this literature review is on the performance of commercial transactions in the

business-to-business (B2B) market. This area, also referred to as B2B e-commerce, is defined as the use of electronic networks to conduct commercial activities between organisations (Standing & Ling, 2007). The current section evaluates several articles to indicate what aspects are involved with conducting e-commerce in the B2B environment. This is among others achieved by comparing the B2B with the business-to-consumer (B2C) environment and the online and offline markets. The overview starts with the article of Standing and Ling (2007) that provided the definition of e-commerce.

In their study, Standing and Ling (2007) determine the current practices, benefits, and constraints influencing the evaluation of B2B e-commerce activities and their impact on e-commerce effectiveness. The paper concludes that the organisations which evaluate their e-commerce systems enter a circle of continuous improvement and increased satisfaction with the online selling environment, as shown in Figure 2 (Standing & Ling, 2007). Evaluation and the degree of evaluation enable the organisation to optimal benefit from their online selling system. Moreover, better insight in the (potential) benefits of the system increases satisfaction. This model shows the need for organisations to be actively engaged in how they present themselves in the online selling environment.

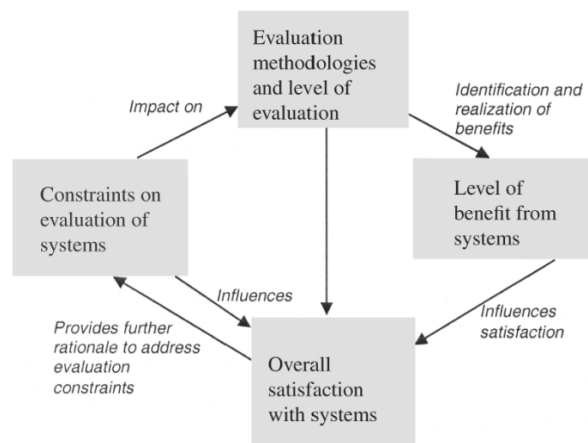


Figure 2: Evaluation satisfaction model (Standing & Ling, 2007)

Furthermore, participating in the online environment brings quite a few advantages compared to the offline sales environment (Chong, Shafagi, Woollaston, & Lui, 2009). These e-commerce benefits are related to vendors as well as purchasers. The assets of the Internet can among others be found in its 24/7 availability 365 days of the year, its role of facilitating global presence and the contribution to reducing marketing cost and search cost. Furthermore, the online environment assists in improving customization and personalization of product and service offerings and creating competitive advantage (Chong et al., 2009). The barriers for participating in e-commerce identified by Chong et al. (2009) are related to limited resources, security and implementation problems, and lack of expertise and support. So, Chong et al. (2009) showed in their article why an organisation should participate in the online environment and what (technical) hurdles must be

conquered. Therefore, an organisation should think about their entire online presence once they decide to be active online and choose to contact (potential) customers online as well.

To expand on the concept of e-commerce, it can be divided into four levels: publish, interact, transact and integrate (Jobber and Lancaster, 2012, p. 384). The first level is defined as publish indicating one-way communication between the organisations and its customers for providing information. The second level refers to interactive engagement with the customer by means of the Internet allowing instant communication, such as an email support system or chat room. Transact includes the online procurement and sales of products and services. This level is subjected to growth since conducting business is becoming more familiar. The fourth level of e-commerce is denoted as integrate, meaning that the computer systems and processes are integrated, for example by means of an extranet: a secure platform accessible for the traders (Jobber & Lancaster, 2012). To become more familiar with the different possibilities of conducting e-commerce another categorization can be made within the third e-commerce level identified by Jobber and Lancaster (2012). The model developed by Cullen and Webster (2007) can be placed within the transact level of e-commerce, although initially not intended that way by the authors. Cullen and Webster (2007) proposed nine scenarios based on the connectivity (number of agents communicating) in the transaction and the purpose (for example: selling, buying or integrated exchange) of the transaction. Two other factors are also taken into account when defining the scenarios, namely the type of interaction (direct or intermediary) and the technological medium (extranet, intranet, WWW or EDI (*Electronic Data Interchange*)) used. The scenarios of interest for this review are the ones that are open, direct, selling and conducted on the World Wide Web. The setting needs to have these specifications since the intended e-commerce is not pre-defined, it is open for anybody. Furthermore, it is aimed to have a selling purpose and no third-party intervention (direct network). The only scenario satisfying these conditions is scenario one: Individual Trading. It has as purpose selling and the connectivity consists of one seller and multiple buyers. The buyers interact directly with the seller in this category for communication as well as purchases. The vendor has invested in one or multiple websites through which it services their customers (Cullen & Webster, 2007).

2.1.1 Differences between markets

Although the online market is increasing in popularity, the traditional offline sales environment has still a large market share. Especially the business-to-business organisations have more knowledge on how to buy and sell in the traditional market than in the digital one. Besides the differences between online and offline sales, another broader distinction can be made; namely between the B2B and the B2C market. Since organisations have different purchase behaviours than consumers. Therefore, it is important to become familiar with the differences between the mentioned markets before an organisation starts to participate in a new market. Organisations starting to pursue their leads online should be well aware of the target market their (potential) customers belong to. Furthermore, they should be aware of the difference between communicating through an online channel and

through other channels. For that reason, this chapter expands on this topic through discussing several related articles.

Consumer preferences for online and offline purchases based on differences across products, consumers and shopping stages are investigated by Levin, Levin and Weller (2005). They found that products are bought online easier when attributes as availability to choose from a large assortment and quick purchase are important. An example of a product attribute causing offline preference is personal service. While determining the attributes they state that products with a high-touch level are required to be present offline at least in the final purchase phase. High-touch products are defined as products that consumers like to touch, smell or try before a purchase decision is made final; consumers like a personal inspection of the product upfront. Whereas low-touch products do not require such physical presence, they are easily bought in a digital environment. Furthermore, the article mentioned that the Internet is replacing traditional information search methods, such as the word-of-mouth in earlier selling stages (Levin et al., 2005).

Another paper representing findings on sales through multiple channel marketing is the paper from Wiesel, Pauwels and Arts (2011). The authors found that online customer-initiated contacts (CICs) have substantially higher profit impact than offline firm-initiated contacts (FICs). Furthermore, the results showed that marketing communication activities directly affect both early and later purchase funnel stages. Their conceptual framework shows how the profit of an organisation is affected by the marketing communication activities. The authors distinguish three aspects in the framework; the first is related to marketing activities. The paper differentiates push strategies (firm-initiated contacts) and pull strategies (customer-initiated contacts). They argue that CICs are becoming increasingly more important to companies, because the Internet has empowered customers to contact organisations on their own terms. The second and third aspects are related to the purchase funnel. The purchase funnel indicates the stages that a customer goes through towards a purchase. The different stages are displayed in Figure 3; the customer is able to leave the funnel during every stage. Furthermore, the marketing activity can either have the purpose to feed the funnel or to progress later stages. The website visits are part of the cognitive stage when the online channel is used, not when the offline channel is addressed (Wiesel et al., 2011).

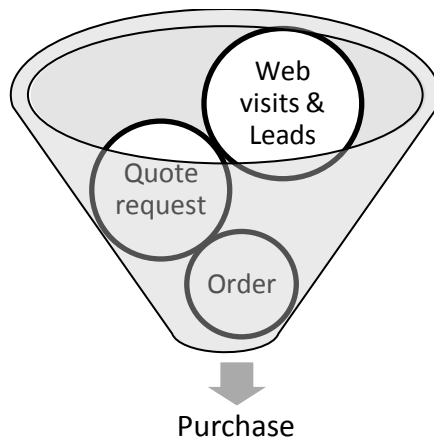


Figure 3: Purchase funnel

2.2 Sales lead processing

The previous paragraphs have shown that the online sales environment increases its market share. It highlighted several aspects of conducting e-commerce and aspects of the online compared to the offline environment. The current chapter expands on the online sales environment. To be precise, it provides an overview of the familiar knowledge of the sales process online. These processes start most often with a lead (information request; unqualified potential) that is somehow generated. Then it is somehow followed-up by the organisation in order to conduct a possible sale. Each lead is a unique (potential) customer with its own specific requirements. The lead could be from a current customer providing an up- or cross sell opportunity or from a potential customer. However, before an organisation receives a lead the (potential) customer may be far along in his purchasing process especially in today's fast moving environment. According to Trailer and Dickie (2006) this causes the buyer's process to be disconnected from the seller's process in the B2C as well as in the B2B industry. Therefore, organisations are forced to adapt their lead processes (Trailer & Dickie, 2006). This is one of the conclusions stated in the research report written by Trailer and Dickie (2006). They conducted an annual survey on over 1200 sales executives over a period of twelve years, to get insight in the challenges the chiefs were facing. Another relevant finding is that the amount of successful handled leads is decreasing; one cause of this is that decisions are no longer made by one individual but have to be approved at multiple levels at the customers' side (Trailer & Dickie, 2006).

After a lead is generated it enters the selling process of the organisation, it arrives in a processing funnel. This funnel is defined as the several steps that the organisation endures before the actual sale is made. This funnel is comparable with the purchase funnel displayed in Figure 3. The difference between the selling funnel and purchase funnel is that the first focuses on the steps that the selling organisation takes, while the other is focused on the purchase steps of the buying organisation. So, several leads are presented at the top of the funnel, these leads manage to proceed down the funnel towards an actual sale. According to Jobber and Lancaster (2012) the leads can depart the funnel at every point downwards

and the sale opportunity disappears. A proper sales funnel has a clear and formal process for capturing and analysing leads, allocating them to sales representatives, managing the qualification process and carefully managing the process of closing those sales (Jobber & Lancaster, 2012, p. 400). The remaining of this chapter introduces among others three models related to the handling of sales leads, the sales process. These theoretical models are each presented individually and the cohesion between them is discussed when applicable. Furthermore, the relevance for the intended thesis project is highlighted, even as possible shortcomings of the discussed articles.

Moncrief and Marshall (2005) introduced the evolved seven steps of selling to represent the modern selling process, Figure 4. These evolved steps are more customer-oriented than the traditional selling steps, they emphasize on relationship selling rather than practising a selling orientation. Relationship selling is defined as securing, building and maintaining long-term relationships with profitable customers. They propose the following seven steps: customer retention and deletion, database and knowledge management, nurturing the relationship, marketing the product, problem solving, adding value/satisfying needs and customer relationship maintenance. Salespersons do not only focus on potential customers anymore, but also on current profitable customers (Moncrief & Marshall, 2005).

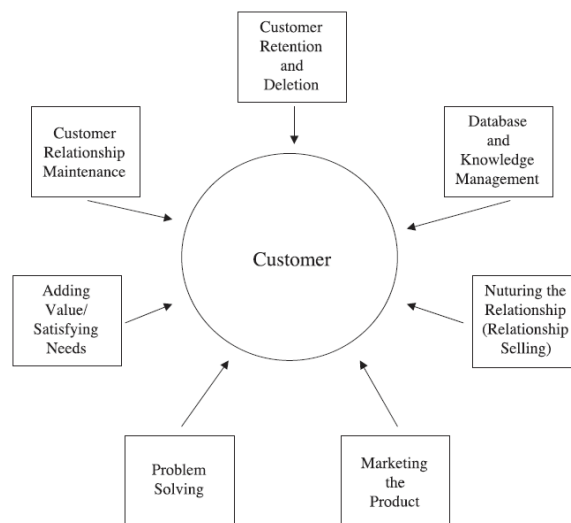


Figure 4: Evolved selling process (Moncrief & Marshall, 2005)

These evolved steps of selling are significant for processing online-generated leads, because these selling steps are part of the sales process. However, the model did not specify in online or otherwise conducted selling activities making the model not perfectly reconcilable with the intended thesis. Nevertheless, all the seven steps are related to the activities of a sales representative, the person conducting the sales process. Some of these aspects are related to handling leads and others are linked to other tasks of a sales representative, as becomes apparent in paragraph 2.3. Steps that among others could be involved with handling leads are problem solving, add value and customer relationship maintenance. Problem solving holds that the selling organisation does not only wants to overcome

objections, but also helps the (potential) customer to identify and overcome problems. This means that the selling organisation assists the lead with choosing the most appropriate product. With this approach and the other mentioned activities, the organisation adds value for the lead.

Leads can be retrieved through various channels such as telephones, congresses, word of mouth, and the Internet. After a potential customer contacted the organisation, the organisation processes the lead and eventually a product or service may be sold (Smith, Gopalakrishna, & Chatterjee, 2006). Smith, et al. (2006) published a paper regarding the relationship between lead generation quality and lead processing quality. To be more specific, in their paper they proposed a three-stage model that captures the effects of communications between marketing and sales on lead generation, appointment conversion, and sales closure. The model is incorporated in Figure 5. The marketing department is responsible for the generation of the leads (stage 1). The sales department is accountable for the processing of the leads through a sales appointment towards a sale of a certain size (stage 2 and 3). Often there are tensions between those departments on how they should conduct their jobs. Marketing is trying to gather as much leads as possible. However, for a good follow-up, the generated leads should not exceed the sales force capacity or delay will occur. The authors developed their model with the aid of a home improvement retailer at which they also tested their decision support tool. Compared with the intended master project the study was conducted in the B2B environment, but not in an online context. The decision support tool showed that the interactive effects between different media and the complementary effects between these media and follow-up selling could improve the effectiveness of the entire system (Smith, et al., 2006).

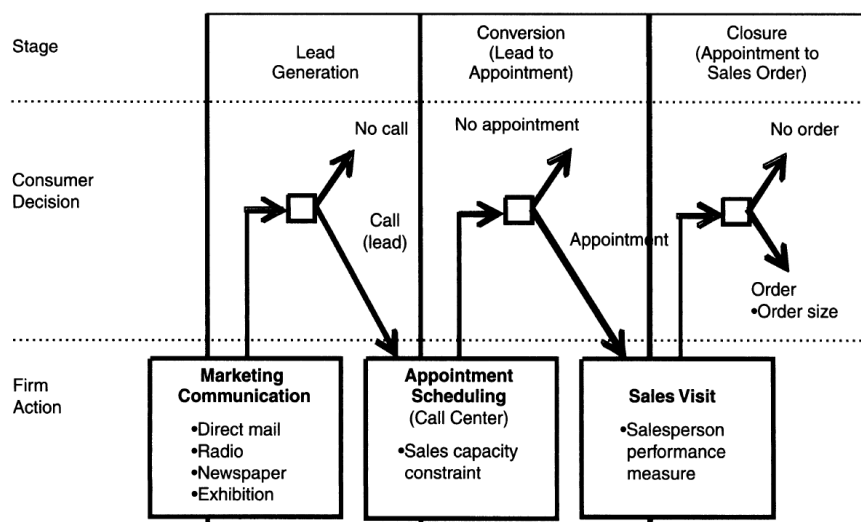


Figure 5: Sales process as a sequence of stages marked by concrete outcomes adopted from Smith, et al. (2006)

The model of Smith, et al. (2006) assumes a more strict distinction between the marketing and the sales department than the seven steps of selling model. Furthermore, Smith, et al. (2006) argues that the differences cause tensions between the departments, while Moncrief

and Marshall (2005) highlight the issue from another perspective. They state that selling currently is evolved. This holds that the sales department needs to be included more in the marketing activities and that the departments have issues with separation and inclusion of activities. Additionally, the evolved selling process includes a broader perspective on the tasks of the sales representative instead of only focussing on lead follow-up as stated Smith et al. (2006). However, the model with the sequenced stages does provide a more detailed insight in the exact steps involved with lead generation.

Söhnchen and Albers (2010) state in their paper, that the sales funnel concept is known and accepted in principle in the sales management literature. However, there are almost no scientific articles on its structure and benefits. Neither is there empirical evidence of the shape of the sales funnel, its potential success factors or barriers. Therefore, they attempt to fill the research gap with a study related to industrial project acquisition processes among private German industrial companies. The study found that the sales funnel accurately reflects the structure of the industrial project acquisition process. In one of the cited articles, it is stated that an organisation can actively manipulate any pipeline practice in order to accomplish optimal results. An ideal sales pipeline has the shape of a funnel, such that the current phase does not contain more projects than the previous phase, but the projects are more promising. This requires the sales force to actively take stop-and-go decisions. An example of such a funnel is displayed in Figure 6. The authors indicate that future research could focus on analytically optimize a specific sales funnel (Söhnchen & Albers, 2010). The representation contributes to the knowledge required for the aimed master thesis in that it provides an idea for the possible structure of a sales funnel although it was not developed in the intended environment.

The model of Söhnchen and Albers (2010) adds to the two earlier mentioned models through providing knowledge concerning the structure of processing generated leads. Smith et al. (2006) displayed the sales process in three sequential steps; their two later phases are split into six detailed stages due to the sales funnel. However, when focussing on the seven steps of selling, one could have questions with the linearity of this model. Perhaps the steps are not as sequential as presented in Figure 6, but could be conducted more parallel. For example the third, fourth, and fifth activities could be conducted analogously. Perhaps for a proper sale funnel based on online-generated leads, those three models need to be combined. As indicated by Söhnchen and Albers (2010) in sales literature there is not much attention for management of the sales funnel or pipeline. However, a research area that has paid more attention to pipeline management is literature concerned with new product development. So, a study in this area is discussed here to provide a better insight in pipeline management.

An article related to this topic is the paper of Cooper and Budd (2007) called "Tying the pieces together: A normative framework for integrating sales and project operations". The paper aims to provide a normative approach in order to unite the sales process with the

project operations capacity by coordinating movement of potential customers through the sales funnel with the company's internal project capacity taken into account. In such a way, that there is a steady workflow, high resource utilization and on time deliverables within the organisation. In their literature review they mention that sales funnel/sales process should be seen as a production process. Defined as a series of coordinated activities that transforms raw materials (leads) into finished goods (sales) (Cooper & Budd, 2007). This is also shown by the sales funnel itself through its lack of iterative structure, since one first 'manufactures' step 1 after which the company proceeds towards step 2. Furthermore, Cooper & Budd (2007) accentuate that in order to manage the sales funnel quantitative information can be useful, for example the sales volume and success probability.

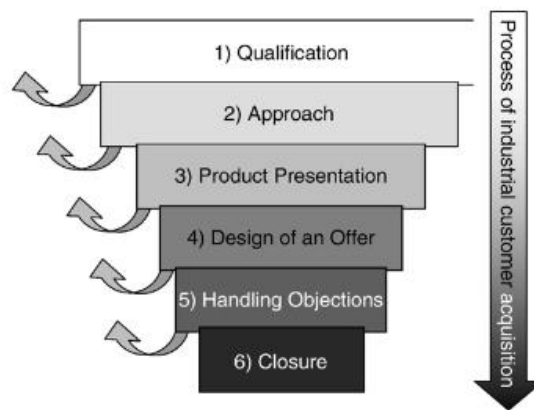


Figure 6: A sales funnel example as proposed by Söhnchen & Albers (2010)

The last two mentioned articles of Söhnchen & Albers (2010) and Cooper & Budd (2007) handle the sales funnel in relation with projects instead of products or services as intended in this literature review. The difference between projects and products is that projects are a complex transaction concerning a package of products, services and works. This transaction is designed especially to realize a specific asset for a client in a certain period of time (Söhnchen & Albers, 2010). Each project is considered unique, while products and service can be offered to different customers.

2.3 Sales representatives

The previous section discussed the sales funnel, as does this chapter. However, this chapter takes another perspective (sales representative side) regarding the activities conducted in the sales process. The viewpoint of the sales representative must be taken into account since this is the person responsible for the lead follow-up. As becomes apparent in the next presented model, the sales representative has more responsibilities than only processing generated leads. This indicates for example that the sales force capacity in the model of Smith, et al. (2006) probably can be influenced by the personal preferences of the concerned representative.

The person conducting the sales lead processing is the sales representative of the selling organisation. Sabnis, et al. (2013), investigated the follow-up of marketing leads, leads by

considering how sales representatives allocate their time to lead follow-up (marketing- or self-generated leads), existing customers & non-selling tasks. According to them, sales representatives often do not pursue generated marketing leads. Unprocessed leads arrive in the so called “sales lead black hole” (Sabnis, et al., 2013). The short of pursued leads is caused through three reasons, namely poor quality of the leads, poor lead classification and the time available to the representative to conduct all his proceedings. This last reason, time allocation, is visualized in Figure 7. The authors applied the motivation, opportunity, ability (MOA) framework to identify organisational and individual factors that may affect the allocation of time. With the aid of the MOA-framework the following variables were identified prequalification, managerial tracking, marketing lead volume, personal experience and personal past performance (Sabnis, et al., 2013). Each of these explanatory variables is now further defined. Prequalification and managerial tracking are two variables associated with the motivation of the sales representative. Prequalification is concerned with the screening and labelling of generated leads by the marketing department and managerial tracking involves the degree to which managers review the follow-up of marketing leads by sales representatives (Sabnis, et al., 2013). The opportunities a sales person has are measured through the marketing lead volume in accordance with the marketing leads received. The variables involved with the sales representative ability are his experience and past performance. These ability variables indicate the quality of the relationship with and knowledge of customers (Sabnis, et al., 2013).

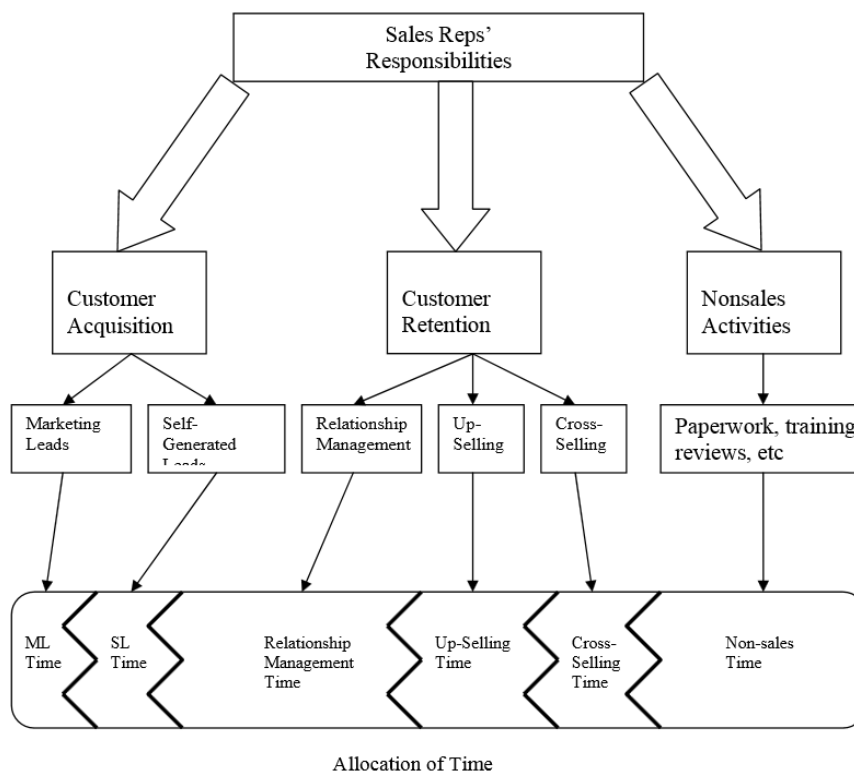


Figure 7: Proceedings of a sales representative (Sabnis, et al., 2013)

Sabnis, et al. (2013) analyzed information, gathered based on the hypotheses composed of the MOA-framework, of 461 B2B sales representatives with the aid of a nested logit model. The results show among others that sales representatives pursue leads more often if they believe the firm effectively prequalifies leads. So, allocate more time to the customer acquisition fraction of Figure 7. Additionally, having more experience causes the representatives to pursue marketing-generated leads less often. Also, these authors point out there are just a few articles on the sales lead black hole, indicating that sales lead processing is not wide embedded in academic journals. Sabnis, et al. (2013) indicates that their results might not be applicable for organisations with still evolving sales processes. They also indicate that future research should address identifying lead-specific and salesperson-specific factors that influence lead follow-up (Sabnis, et al., 2013). This model is of interest for the intended master thesis, since it provides general insights in the person conducting the online-generated leads processing. It shows what other activities the representative has and what he values.

Sabnis, et al. (2013) examined a possible cause of the sales lead black hole, namely time allocation of the sales representative. Hasselwander (2006) addresses the sales lead black hole from another perspective, that of the marketer. He states that marketers experience three types of problems: bad leads, ready-to-buy and stale leads (Hasselwander, 2006). Especially the ready-to-buy problem is also applicable for the sales representatives when they react upon a lead. This problem encompasses that the selling party is unfamiliar with when the customer is ready-to-buy, this ready-to-buy phase only holds for a certain period after which the selling organisation may have lost a sale (Hasselwander, 2006). This is also interesting for the sales representative, because when he receives a lead, he also is unfamiliar with how far along the buyer is in his purchasing cycle.

Hasselwander (2006) suggests four solutions. The first one is to prequalify leads: promote promising leads and remove bad leads automatically. The second solution is costly, qualify the leads: call the potential customer to measure his interest. Active lead nurturing is the third offered solution to the sales lead black hole. This third possibility refers to helping the potential customer move forward in his sales funnel before an actual sale can be made. The fourth solution suggested is better stage tracking and reporting, defined as improving the management of CRM and the lead pipeline (Hasselwander, 2006).

When the article of Hasselwander (2006) is compared with the model of Sabnis et al. (2013), it is found that both articles suggest prequalification. Lead prequalification is slightly different defined in both articles. They have in common that lead prequalification holds that the sales representative should somehow be able to spot promising leads, able to make a distinction between leads. Showing that also marketing has an important role in the processing of online-generated leads. Marketing should make sure the correct triggers are present in the lead to make sure a sales person does the follow-up.

Table 1: sales lead evaluation scorecard (Monat, 2011)

Determinants of customer purchase decision	Manifestations as lead characteristic	Lead characteristic assessment (positive, negative, neutral, or unknown)
Prospect's perception of his company's need and desire	Is there an approved project?	
	Is there a current product or service with which you are dissatisfied?	
	Source of the lead	
	Whether prospects is or has contacted by vendor	
Prospect's perception of his company's urgency	Timeframe?	
Prospect's ability to purchase	Is the project funded?	
	Decision authority of the contact	
	Are we dealing with the CEO	
Prospect's perception of risk/trust and confidence in vendor	Familiarity with the vending company	
	Current or past customer?	
	Prospect's willingness to provide information (extent of knowledge about the prospect's situation)	
	Source of lead: referral	
Availability to prospect of a better deal	Extent of competition	
Prospect's perception of value	ROI, DCF, or other value calculations	
	Importance	
Prospect's perception of quality	Prospect's statements about relative quality of vendor's product or service	
Prospect's perception of service	Prospect's statements about vendor's service	

A different interesting article based on prequalification is published by Monat (2011). Monat (2011) is interested in the lead characteristics that are accurate determinants for a sale. Therefore, his discussion includes the characteristics that trigger the sales person to insert energy in a follow-up. The author argues that a sales representative assess the purchase readiness of the potential customer when pursuing a lead. Sales representatives seek for indicators of the determinants of customer purchase decisions. Therefore, they try to get insight in among others the lead source, intended timeframe, involved competitors and decision authority of the contact. Monat (2011) provides the steps that should be taken to develop a lead characterization model, which can result in a quantitative or qualitative method. An example is the developed scorecard to assess the sale possibility, which is listed in Table 1 (Monat, 2011).

This paragraph showed that the sales representative conducting the activities in the sales funnel, is not only involved with processing leads, but also has other tasks in his job description to which he allocates time. It became apparent that prequalification, managerial tracking, lead volume and a person's experience and past performance influence the lead follow-up. Furthermore, it is demonstrated that marketing could provide the correct triggers for a representative to pursue an online-generated lead, the accurate indicators of a potential customer's intention.

2.4 Conclusion

This literature review discussed the current situation of e-commerce with respect to processing of online-generated leads and sales representatives. The found literature is used to formulate an answer on the main issue: "How should a medium-sized service company process online-generated leads in the business-to-business environment more time efficiently"? As the above reviewed articles reveal the central question can partially be answered with the current available knowledge presented in the literature. In order to provide a good answer this chapter provides an overview of the above obtained knowledge. The previous paragraphs indicated that participating in the online environment (conducting e-commerce) brings several challenges to organisations. Challenges can be found in addressing the lead generation process and the lead processing process. In addition, the above review shows there is indeed a lack of academic papers regarding the lead generation process and the processing of the leads. When applicable this paragraph highlights the gaps still present in the academic articles, it is possible to formulate potential research questions addressing these gaps concerning the processing of online-generated lead in the B2B sales environment.

As shown above the online purchase environment is examined in the literature and it is suggested that online popularity is increasing, also in the B2B context. There are papers presented with definitions of several terms related to the online selling environment. Organisations can now conduct e-business and/or e-commerce and it is important for organisations to evaluate their e-commerce systems in order to continue improvement and keep increasing the benefits and satisfaction of the system for the organisation and its customers (Standing & Ling, 2007). Several benefits of online systems are 24/7 global presence and customizations of the offerings all increasing satisfaction of both the organisation and customer. Nevertheless, the organisation needs to make sure that they have knowledge and expertise regarding the activities and system they want to use (Chong, et al., 2009). However, it is still unknown how e-commerce systems contribute to business performance or what the success reasons are for online service performance. It would be interesting if an academic paper elaborates on how e-commerce contributes to the performance of an organisation or examines what causes the success of online service performance. To zoom in on e-commerce possibilities several categorizations have been made in the literature. There is a distinction made through identifying four levels of online integration between the organisation and its customers. An organisation should recognize

what kind of e-commerce it wants to exercise: publish, interact, transact or integrate. And if possible further define its chosen level of e-commerce. This more detailed level of characterization is made by Cullen and Webster (2007) for the e-commerce type labelled as transact. In their model, they make a distinction based on the connectivity and purpose of the transaction resulting in the previously discussed nine different trade scenarios. These scenario's help organisations to select the most appropriate approach for conducting e-commerce. Once the organisation has determined their e-commerce activity, they should act accordingly.

As indicated by Levin et al. (2005) customers that purchase online attach value to having choices and a quick settlement of the purchase. Additionally, during the development and improvement of their e-commerce system an organisation should contemplate the reasons that (potential) customers conduct their purchase activities online. These reasons are among others having options to choose from, conduct purchases quickly and do business on their own terms. Moreover, customers prefer the customized and personalized offers they can receive online without leaving their desks. Since customers prefer the Internet among others for the purchase speed, research can focus on accelerating the process after a purchase intention (lead) is perceived. Furthermore, online customers have the luxury to contact an organisation on their own conditions. For example through a contact form, an e-mail or an online found telephonenumber. This customer initiated contact is becoming increasingly important for organisations due to online presence. However, organisations do experience some difficulties with CICs. For example the organisation does not know where in the purchase process the customer is located or how to deal with a customer that provided incomplete or incorrect information. Therefore, another question could be how to extract complete and correct information from a customer when he indicates his interest? To zoom in further on the selling environment, insight is gathered concerning the sales process made by an organisation. More research questions can be found in this area when the customer shows his purchase intention and the process directly after the release of this lead. For example, how could an organisation achieve a faster lead follow-up such that the potential customer does not lose his interest?

Smith et al. (2006) showed that generation and processing of a lead consists of three steps. The first step holds that the organisation's marketing department generates the leads. Ideally, the amount of generated leads does not exceed the amount that the sales department can process. Besides the sales force capacity, it is found that due to the decision process at the purchasing side the amount of successful processed leads is declining. Trailer and Dickie (2006) add to the lead generation process that the point in which the customer gives a lead towards the selling organisation is changing due to the Internet. Nowadays, a customer can be far along in the purchase process before he provides a lead to the selling organisation as was mentioned earlier. Therefore, a more e-commerce customer specific question that could be studied in science is related to finding a method in identifying how ready-to-buy a customer is when he provides the lead to the organisation.

After a lead is generated, the sales department processes the generated leads in multiple steps, the sales funnel. In this funnel leads can abandon at every stage, once it has become clear that a successful sale is not possible. The concept of a sales funnel has been widely accepted. However, scientific literature about the specific topic is sparse. There is a lack of empirical studies providing information about the structure or benefits of the sales funnel. So there is a demand for analyses of specific sales funnels (Söhnchen & Albers, 2010). Consequently, possible questions concerning this topic are related to the structure or benefits for the organisation of maintaining a specific sales funnel. For example: “what is the optimal structure of a sales funnel in order to increase the successful processed leads?” Or, to identifying the benefits for an organisation to follow a specific sale funnel for online-generated leads. The sales funnel originates from the concept of pipeline processing. Pipeline management has found more scientific support, mainly in the area of new product development. Articles related to this scientific field argue to treat the sales funnel as a production process which starts with a lead (raw materials) and ends with a sale (finished product) (Cooper & Budd, 2007).

Furthermore, it is shown that besides difficulties in making a successful sale due to decisions made by the buyer, sales representatives often do not follow-up on generated sales leads due to time allocation and perceived poor classification and quality of the leads. This was highlighted by the model of Sabnis, et al. (2013) which they made to gather insight in the reason for the existence of the sales lead black hole. They developed the model based on their findings of time allocation with the MOA-framework. The choice to pursue a lead is dependent of the prequalification and managerial tracking of the lead, lead volume and experience and past performance of the sales representative (Sabnis, et al., 2013). That prequalification has a large role in lead follow-up is also found by Hasselwander (2006). It is argued to focus on an individual-tuned cooperation form based on abilities and organisation specific sales processes. Questions similar to “what are the right motivation triggers for a sales representative so that he follows-up on an online-obtained lead?” could be asked. Alternatively, “What should the specification be of leads generated online so that a sales representative pursues them more quickly?” A different issue that future papers can address is concerned with the time the sales representatives should have before a lead must be processed.

3. Conceptual models and hypotheses

This chapter describes two proposed conceptual models that could drive time efficient lead follow-up. The first model is based on the study of Sabnis et al. (2013) and captures the lead and representative elements improving the lead processing time. This model is tested with the aid of quantitative analyses. As stated earlier it is expected that the processing time of a lead is not only influenced by certain lead elements, but also through the presentation of the generated leads, the developed workflow system. Therefore, the second model based on Russel, et al. (2005) is introduced and covers another aspect of the sales funnel process, the workflow/lead presentation. These two insights should provide a complete perspective on the processing of online-generated leads by a sales representative. After each conceptual model the associated hypotheses are discussed in the next paragraph.

3.1 Conceptual model quantitative analysis

Sabnis, et al. (2013) developed a model that is partially applicable for this thesis project. The model is first presented in more detail than done in the previous chapter, after which its applicability is discussed. The model of Sabnis, et al. (2013) offers insight in the sales representatives' time allocation and motivation.

The representation proposed by Sabnis, et al. (2013) was developed to investigate the follow-up of marketing leads by considering how sales representatives allocate their time to lead follow-up (marketing- or self-generated leads), existing customers and non-selling tasks. The time allocation choice a sales representative faces is displayed in Figure 7, Chapter 2. The authors applied the motivation, opportunity, ability (MOA) framework to identify organisational and individual factors that may affect the allocation of time. The examined framework including the hypotheses is visualized in Figure 8.

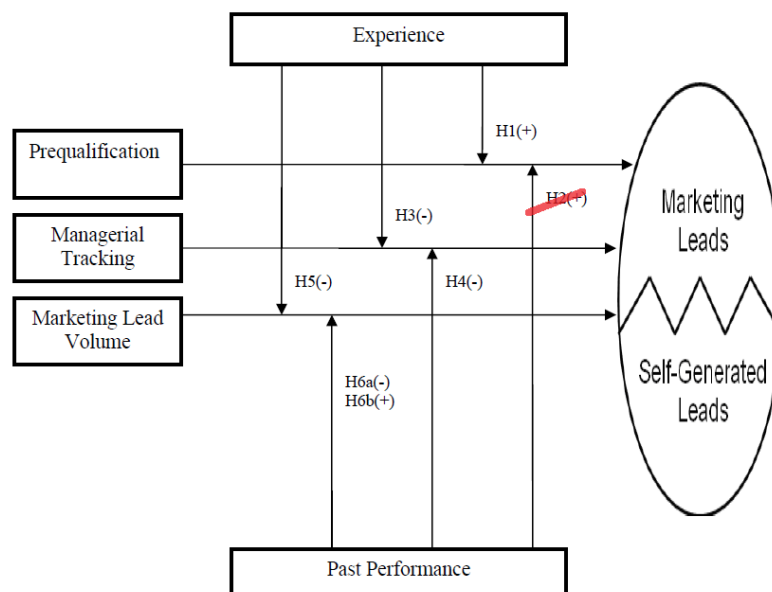


Figure 8: visual presentation of the hypotheses (Sabnis, et al., 2013)

All hypotheses were proven to be significant, except for the second hypothesis that was not significant. These hypotheses are followed by a nested logit model to capture the conditional nature of decision-making. With the aid of the MOA-framework the following variables were identified prequalification, managerial tracking, marketing lead volume, personal experience and personal past performance. Each of these explanatory variables is now further defined. Prequalification and managerial tracking are two variables associated with the motivation of the sales representative. Prequalification is concerned with the screening and labelling of generated leads by the marketing department and managerial tracking involves the degree to which managers review the follow-up of marketing leads by sales representatives. The opportunities a sales person has are measured through the marketing lead volume in accordance with the marketing leads received. The variables involved with the sales representative ability are his experience and past performance. These ability variables indicate the quality of the relationship with and knowledge of customers (Sabnis, et al., 2013). In addition, the article examines the time spent on the various activities that a sales representative has, meaning that it gathers insight in how a representative allocates his time. The authors gathered all the required information with the aid of a survey sent to over 400 sales representatives distributed over four organisations (Sabnis, et al., 2013).

An article which examined the prequalification of leads more extensively is the article of Monat (2011). The lead characteristics should motivate the sales representative to follow-up on a lead. Triggers for processing a lead are related to the ready-to-buy status of the (potential) customer (Monat, 2011). Therefore, the characteristics are concerned with how the lead is generated. More specifically, the features are related to what information is requested from the (potential) customer that motivates the sales representative to act.

The model of Sabnis, et al. (2013) as displayed in Figure 8 does not connect flawlessly with the identified research questions for this master project. The model focussed on two types of generated leads (marketing-generated or self-generated). The focus of this thesis one particular type of marketing leads. That is the online-generated leads created by the marketing department through the company's websites. These online-generated leads are a part of the ellipse displayed in Figure 8. It is interesting to examine whether or not the identified variables of Sabnis et al. (2013) are evenly applicable for this specific category. Their model did not consider the different lead sources separately; however different lead sources could be influenced to varying degrees by the variables. Therefore, this thesis investigates the applicability of the variables on a specific type of leads in another environment than the organisations participating in the original study (matured firms versus evolving firm). Additionally, the study of Sabnis, et al. (2013) indicated that similar analysis with more detailed measures of lead follow-up efforts could result in a better understanding of lead processing. For example, data on the level of the lead or the level of the sales person concerning lead follow-up.

Furthermore, in this master thesis the focus is not only on the ability variables as identified by Sabnis, et al. (2013). The ability represents the set of skills and proficiencies necessary to achieve a goal through measuring the experience and past performance. This thesis also focused on the ability as the external set of tools (tooling) required to achieve a goal. In literature tooling is generally defined as the large variety of accessories and attachments essential to complete a given set of activities (Melnyk, Ghosh, & Ragatz, 1989). So, to make it more sales specific, the resources a sales representative requires accomplishing a quicker first follow-up of a lead. These tooling can be sought in the options that the follow-up system possesses to proper process the lead when the sales representative lacks the expertise. For example, the sales representative's ability to use different tools, such as information on which data should be gathered from the customer for a specific type of request or the availability of a mail template. The article by Melnyk, et al. (1989) showed that lack of tooling can among other things, cause an increase in (waiting) queues or underexploited resources. Several tooling characteristics are identified by the authors. These elements highlight the variety in tooling aspects. The characteristics include the range of application, degree of dedication, setup versus production and ease of substitution (Melnyk, et al., 1989). Tooling can originate from different sources when relating to sales activities, it could be the available knowledge concerning the lead topic, the attributes accessible to conduct a follow-up or the manner in which the new lead can be approached.

An organisation receives all different types of leads. This differentiation is based on the marketing channels, the product portfolio and the market. A sales representative may be more familiar with one type of product, market or customers than with other types. This causes a sales person to be better able to follow-up on some leads than on others. The leads in an area that he might not be that familiar with may cause a representative to not conduct the first follow-up. However, when he has the correct tooling available to help the lead in the first instance, the representative might decide to pursue the lead anyway. The tooling he might require is concerned with product information, details related to which information needs to be gathered, and on how the lead should be approached. As argued in this paragraph, it is expected that the availability of tooling manipulates the variables that influences the online lead follow-up. Based on these modifications the model of Sabnis, et al. (2013) is adjusted towards the conceptual framework for this master thesis. The conceptual framework is presented in Figure 9. The figure also shows the hypotheses. These hypotheses are discussed later in this chapter. So, Sabnis et al. (2013) examined the influence of different motivating, operating and ability variables on marketing- or self-generated leads. The focus of this thesis is found in these motivating, operating and ability variables on a specific type of marketing lead, namely online-generated leads.

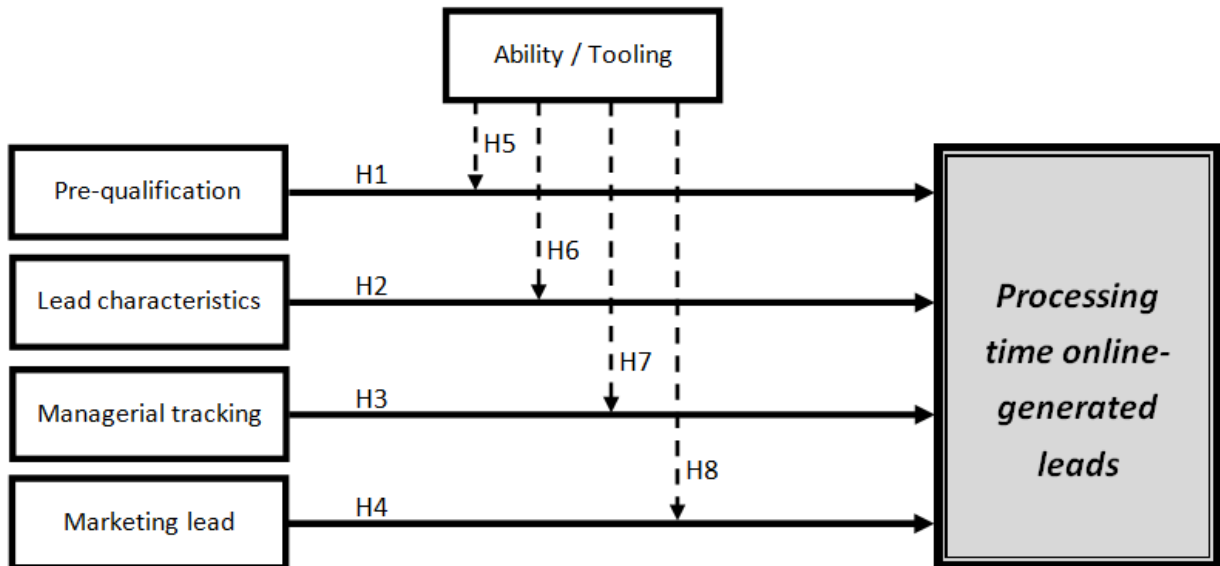


Figure 9: Lead-specific conceptual model for master thesis project

3.2 Hypotheses quantitative analysis

This section presents the hypotheses accompanying the conceptual models presented in Figure 9 and Figure 11. This study is interested in examining whether some lead, person or system elements affect the number of online-generated leads that are followed-up.

Sales representatives are unable to objectively assess the prequalification of a lead. So, prequalification holds the perception of prequalification (Sabnis, et al., 2013). Based on the argumentation and findings of Sabnis, et al. (2013), this thesis aspects that prequalification is one of the drivers of a sales representative's motivation for pursuing marketing leads. Accordingly, it is expected that prequalification reduces the processing time of an online-generate lead. This is specified by the study of Monat (2011) through identifying specific lead characteristics to trigger a sales representative to sooner progress a lead. He examined the influences of the different characteristics as stated in Table 1 on page 24. The lead features can be categorized as aspects concerned with realisation time, professionalism of the lead, et cetera. An additional problem with triggering a fast follow-up could be that the selling organisation has no indication on how ready-to-buy a potential customer is. This is among others likely to be solved by asking certain information from the lead, so by gathering the above mentioned lead characteristics and or prequalifying the lead (Hasselwander, 2006). Based on this argumentation the following hypotheses are formulated.

Hypothesis 1: Prequalification of a lead is negatively related to the processing time of online-generated leads and therefore makes the lead follow-up more time efficient.

Hypothesis 2: Lead characteristics are negatively related to the processing time of online-generated leads.

Another motivational driver is found in the managerial tracking. Sales supervisors conduct activities related to monitoring, stimulating, directing, evaluating and rewarding sales representatives. It is proven that supervisory leadership improves the sales performance, especially the relational sales performance (Verbeke, Dietz, & Verwaal, 2011). Monitoring by a manager is expected to function as stimulus to faster process incoming leads (Sabnis, et al., 2013). So, managerial tracking is expected to reduce the time between lead entry and lead follow-up.

Hypothesis 3: Managerial tracking is negatively related to the processing time of online-generated leads.

For a sales representative it is essential to have the opportunity to follow-up on leads, so there should be leads available to him. Sabnis, et al. (2013) defined this opportunity such that sales departments should have leads available to follow-up, the marketing lead volume. Indicating that when more leads are created with the aid of the websites, the sales representatives have the opportunity to follow-up more leads (Smith, et al., 2006). It is expected that this results in the sales representative allocating more time to the processing of leads. More time spend on lead follow-up is anticipated to contribute to a reduction of the processing time.

Hypothesis 4: Marketing lead volume is negatively related to the time before follow-up of online-generated leads.

Sales representatives should add value for the (potential) customer, among others through identifying and solving problems. To be able to add this value, the representative must become familiar with the customer through multiple contact moments and investigation of his background (Moncrief & Marshall, 2005). This enables the representative to be in a better position when it comes to assessing leads.

This thesis expects that sales persons are influenced by their supervisor when it comes to the processing time of online-generated leads and that the effect is larger when the appropriate tooling is available. The behaviour of sales representatives is influenced by managers as stated by Sabnis, et al. (2013). The authors found that sales representatives get more focussed on outcome than on behaviour when their ability increases. This indicates that a fast and successful follow-up becomes more important.

Furthermore, the ability to conduct a follow-up is enlarged when the representative has tooling available. It is expected that when a sales person has the availability over a mail program or/and more ingenious tools the sales representative is more eager to follow-up on a lead. Besides, tooling is likely to anticipate in the amount of handled volume by the sales representatives, it probably makes the leads follow-up faster, because the task is 'easier'. With the aid of this argumentation the following hypotheses are proposed:

Hypothesis 5: As the sales representative's ability increases, the negative effect of prequalification on the processing time of online-generated leads increases.

Hypothesis 6: As the sales representative's ability increases, the negative effect of the lead characteristics on the processing time of online-generated leads increases.

Hypothesis 7: As the sales representative's ability increases, the negative effect of the managerial tracking on the processing time of online-generated leads decreases.

Hypothesis 8: As the sales representative's ability increases, the negative effect of the marketing lead volume on processing time of online-generated leads increases.

3.3 Conceptual model qualitative analysis

The previous paragraphs in this chapter have shown which factors are expected to influence the processing time of online-generated leads. The remaining part of this chapter focuses on the processing system / handling the workflow. So, this chapter is concerned with lead presentation. The aim of including this workflow part is to provide more concrete recommendations after the analysis. The aimed recommendations provide guidance in how a lead processing system should function in an organization.

An interesting perspective on processing leads is offered by Russel, et al. (2005). In their study they focussed on workflow patterns (lead presentation). This is applicable for the aimed thesis in that it offers insight in how the generated leads can be divided automatically among the different sales representatives. There are different resource patterns identified by the authors. The applicable patterns for online-generated leads are categorized as pull patterns. Pull patterns are systems in which the sales representative is alerted concerning available leads that can be followed-up. The representative is then free to choose whether the lead is followed-up directly or at a later stage. These pull patterns are applicable for a sales process. The representatives receive an online notification (e-mail or otherwise) on which they can choose to respond immediately or at a later point in time. Push patterns are not applicable for the sales process. When using a push pattern a system allocates leads towards representatives. The sales representatives of an organisation have expertise in some of the products and services that are offered, but they do not possess expertise on all products offered. Through this specific expertise the system is not the proper object to divide the leads to representatives. An allocation through the resources should be made based on the interest of the lead, which can not be determined by a lead processing system. Russel, et al. (2005) identified six different types of pull patterns which are explained in the following paragraph. The six pull patterns are visualised in Figure 10, in which they are applied on online-generated leads. Figure 10 shows the routes that a lead can take between entering the organisation and receiving a reaction on the shown interest (first follow-up) (Russel, et al., 2005).

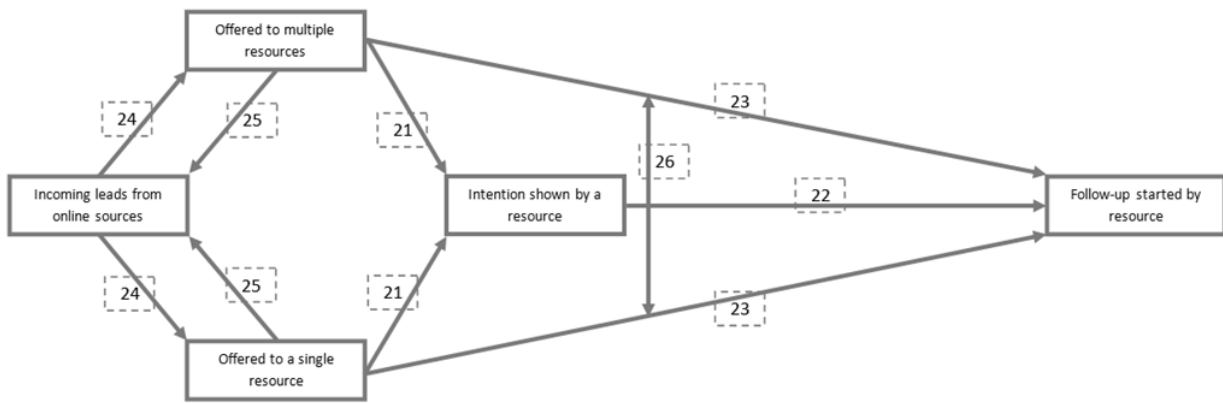


Figure 10: Visualisation of the identified pull patterns

The six pull patterns resource-initiated allocation (labeled as pattern 21), resource-initiated execution (pattern 22), offered work item (pattern 23), system-determined work queue content (pattern 24), resource-determined work queue content (pattern 25) and selection autonomy (pattern 26) are briefly explained in this paragraph. The resource-initiated allocation, pattern 21, is the first pull pattern identified by Russel, et al. (2005). The authors defined it as enabling a sales representative to commit on pursuing a lead, although not immediately. Resource-initiated execution (pattern 22) is described as the ability of a sales representative to follow-up on a lead that is assigned to him. Pattern 23 holds that a sales representative is able to choose which lead he pursues next. He selects his work item from a pool of leads offered to all representatives within the company, the queue content. The next pull pattern, pattern 24, is defined as enabling the system to determine the sequence and/or content of the presented leads for example based on priority or date received. The resource-determined work queue (pattern 25) embraces that a sales representative is able to specify the format and content of leads listed for execution. Finally, pattern 26 can be useful for the processing of online-generated leads. Pattern 26 indicates that sales representatives have the ability to select the next lead to be followed-up based on preference and characteristics of the lead (Russel, et al., 2005).

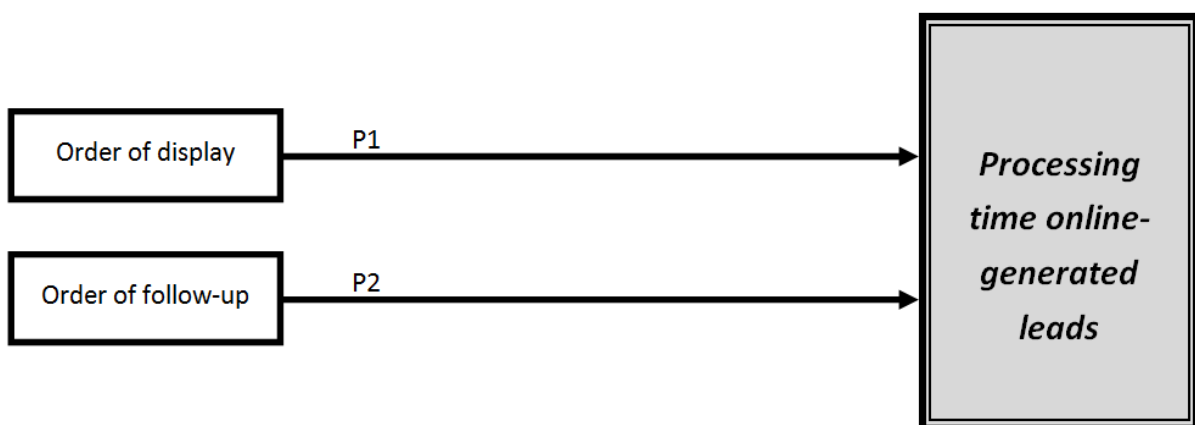


Figure 11: System-specific conceptual model for master thesis project

As can be concluded from their definition pattern 21, pattern 22, pattern 23 and pattern 26 are related to the follow-up order. In the same paragraph it is shown that pattern 24 and pattern 25 are concerned with the order of display. Both these types of workflow patterns are expected to influence the processing time of online-generated leads, because they offer the person handling the leads insight in the importance of a lead. When a sales representative believes that a lead is more important, he is expected to sooner conduct a follow-up. Furthermore, it offers the sales representative flexibility and power in choosing which work item to follow-up. Pull patterns are expected to provide the representative insight, guidance and overview in the generated lead maze. It is expected that this contributes to a more time efficient lead processing, since the representative can start with the follow-up immediately. The article of Russel, et al. (2013) offers another perspective on processing online-generated leads, namely from a system perspective. The conceptual framework that could be developed based on this literature is shown in Figure 11. The following propositions are based on the theory of Russel, et al. (2013) and belong with Figure 11.

Proposition 1: A fixed work queue of the order in which the leads are presented is expected to contribute to a faster processing time of the online-generated leads.

Proposition 2: Allowing the sales representative to select the next workitem (lead) themselves is expected to contribute to a faster processing time of the online-generated leads.

These proposed models for this thesis are presented in Figure 9 and Figure 11. As shown in those figures, this thesis is interested in several elements related to the follow-up of online-generated sales leads by a sales representative (Figure 9) and how the used system can influence the processing time (Figure 11). The master thesis mainly focuses on the drivers of lead follow-up/sales person perspective (Figure 9) while taking the influence of the lead presentation (Figure 11) into account during the recommendations.

4. Methodology

This chapter discusses the research methodology used to test the conceptual model and hypotheses. It describes how the influence of volume, supervision, lead characteristics, ability and workflow systems on the amount of processed online-generated leads is examined. Before details are given concerning the methodology, section 4.1 describes the research setting with a detailed explanation of the current situation. Section 4.2 provides information on the sample and procedure used for this thesis. Section 4.3 highlights the important aspects of the survey. The measures are explained in paragraph 4.4 and the chapter is finalized with a description of the conducted analysis in section 4.5.

4.1 Research setting

This study is conducted within the company CM. CM is a medium-sized company with their head office in Breda, the Netherlands. Besides the office in Breda, the organisation is also located in Zaventem, Belgium. The organisation operates in corporate mobile messaging and mobile payments in the B2B market, meaning that CM sells their products to other organisations which may send SMS-messages to consumers or organisations. On a daily basis they serve over 1.000 customers, which correspond with more than 3.000.000 SMS-messages in over 200 countries. The customer base of CM varies from small businesses towards very large organisations, such as the Dutch government. During the 15 years the company exists it has launched over 30 websites to offer their products and services. Furthermore, it has grown towards an organisation with 130 employees of which approximately 30 are directly involved with customers.

CM receives leads from potential customers through several channels. The ratio between online and offline received leads is roughly estimated to be 50%-50%. The aim is to increase the online percentage in the near future. In order to reach that goal the organisation is improving their online presence and processing system. The company encounters several challenges regarding the leads they receive online, their sales processes and their product and service portfolio. Since the organisation offers a lot of information online and seeing that their customers are becoming more and more interested in online searching and purchasing, they desire to develop a good working system for the processing of leads.

4.1.1 Current lead processing system

The current lead system holds that the lead has the possibility to contact the organisation through a phone call, e-mail or Skype chat. Furthermore, the (potential) customer can complete a contact form on one of the websites, when he has an inquiry or intends to buy CM's service. After receiving the contact form a sales representative reacts on the lead. The current lead processing system holds that the contact form or email is presented in the mailbox of the sales representative concerned or in a general mailbox. So, depending on the website origin of the form it is allocated to one sales representative. When the form origin is not specifically assigned to one sales representative it is presented in a general mailbox of the organisation. This general mailbox is monitored by several sales representatives.

However, CM has experienced that the concerned sales representative does not always react immediately on such e-mails and occasionally they even evaporate. The organisation believes that the lack of follow-up is caused due to several constraints. Sales representatives indicated that it was not always clear where the lead originated from. They received a notification with the details that the lead has left online. However it was not clear in what context he filled out the form, where on the site he exactly requested information. Furthermore, it was sometimes vague what kind of reaction was expected from the sales representative. They had question related to whether or not the received email was just a notification or what exactly the lead had ordered/requested. As may have become apparent the lead follow-up was cluttered and there was lack of control and overview.

The absence of pursuing of generated leads results in lost sales. The organisation has experienced that potential customers are actively seeking for a solution and can therefore find their solution elsewhere as well. Reducing the processing time of leads is important to avoid lost sales. Therefore, the organisation is seeking for a method to improve this lead handling process and thereby the lead reaction time. In addition, the organisation believes that each lead is important; this functions as an additional motivator to handle all leads. During this master thesis project the organisation is developing a system that makes the processing of online-generated lead more efficient. This thesis contributed to this development by providing advice for the 'best' processing, gathering or presentation of leads. Along with the development of this system the organisation encounters problems and would like to know how these can be solved in the best affordable way. The problems are related to how they should organize the new system in order to pursue the generated leads more effectively. This thesis contributes to accelerating the processing time of leads within CM through examining the drivers of processing leads and providing recommendations.

4.2 Sample

The data to test the research model is gathered in cooperation with CM. CM provided the contact details of 29 employees involved with online-generated leads. Hair, Black, Babin and Anderson (2010) stated that a study can be generalizable when the ratio of observations to independent variables is not below 5:1. The conceptual model of this thesis contains 4 independent variables, so the number of observations should be above 20 (Hair, et al., 2010).

The 29 employees are approached to participate in this study, because they are involved with online-generated leads and are active on the global B2B market. Furthermore, they handle different types of online-generated leads. They receive website forms from potential customers and e-mails with up- and cross-sell opportunities from existing customers. Moreover, they are active on different kind of social media, mainly Skype and Twitter. The employees are distributed over different functions within CM. Most of the approached employees are part of the sales department and have a function as sales representative or account manager. Other employees are part of the online (development) team, the

customer support team or another division. In addition, the CEO and the managing director of the organisation were asked to participate. The approached employees were either active in the Breda office or in the office in Belgium to ensure a good representation. To ensure a high response rate a three-wave method was applied. This holds that e-mail invitations were sent to the participants and after a week a reminder was sent towards the employees that did not complete the questionnaire already. A second reminder was sent two weeks after the initial invitations. There were no rewards promised for participating in the survey.

Besides the data from the employees another kind of data is also used for this study. The second type of data consists of objective data from a program that shows almost all online-generated leads that enter the organisation (all leads except for e-mails with a specific contact address). This program provides information concerning the date and time of entry within the organisation and from which source the lead originates. Furthermore, it is shown what kind of product and/or contact the customer is interested in. Besides lead information also follow-up information can be retrieved. The program tracks when and how the lead is followed-up, allowing the calculation of the processing time. This lead information is collected from all leads that entered the company during the second quartile of 2014 through one of the websites. Between April 1, 2014 and June 30, 2014 the organisation received 689 leads online through their developed system. The mentioned different sources for the leads are referring towards the different websites through which a lead could enter the company. In the second quartile of 2014 there were 9 different sources monitored in the online-generated lead program. In addition, different types of activities could be conducted by the leads when they entered the organisation during the monitoring period. These different types of activities are based on the activity that the lead conducted on the website. A lead could be of the activity type: purchase, product order, contact, contact specific, price alert, demo registration, call request or a whitepaper download. Not all types of leads could occur in all sources, some types were specific for 1 or 2 sources. A short indication what each type of lead/lead activity holds is provided in Table 2.

Table 2: Lead type explanation

Type of activity	Definition
Purchase	A lead immediately conducted an online purchase before showing another type of interest to the organisation
Product order	A lead left his details once he decided to order a product based on the online presented information
Contact	A lead has visited a website and left his details to receive more information via email or phone. For some source a standard messages was pre-filled for other sources the remark field was left empty.
Contact specific	A lead has visited a website and left his details to receive more information via email or phone. The lead left its own description in the remark field.
Price alert	A lead is possibly interested in a product when a price drops below a certain level and therefore he wants to be notified when that happens, so he filled in the form.
Demo	A lead registered online for an account to test the connection with 100 free

registration	messages and after that perhaps conduct a purchase
Call request	A lead has visited a website and left only his phone number to be contacted.
Whitepaper download	A lead has visited a website and downloaded a document with more information concerning the SMS possibilities in a certain sector.

4.2.1 Descriptive statistics

From the 29 invited employees that were involved with online-generated leads eventually 19 participated in the questionnaire. This resulted in a 65,5% response rate, the response rate would probably have been higher when the questionnaire was not done in the vacation period. The missing value analysis showed that most variables have less than 10% missing data, except for the variables GI3 and GI4. The number of missing cases for variable GI4 were very high (>60%), so this variable was deleted. The other variables have an acceptable percentage of missing values for recovery, around 20% to 30%. According to the Little's Missing Completely At Random (MCAR) test the data was interchangeable from cases with complete data, since the significance level was 0,989. Therefore, the missing values were replaced with the aid of mean substitution, an appropriate method when there are low levels of missing data (Hair, et al., 2010). The 19 employees who completed the survey had an age between 22 and 54 years, with a mean of 36 years. There were 14 male (74%) and 5 female (26%) respondents. On average, they were employed at CM for 4,9 years, varying from 0,5 to 15,4 years at the time of participation.

Regarding the dataset with lead follow-up information no values are missing, since the dataset is generated from a computer system. From the 689 leads that could have been followed-up, 156 leads did not receive a reaction after completing a website form. So, 22,6% is not followed-up by a sales representative. Focussing on the leads that did receive a follow-up reaction, all leads were pursued within a timeframe of 2 minutes to 522 hours (22 days). On average, the processing time of a lead was 28 hours. However, there was quite some variation in the follow-up time, since the standard deviation was 41 hours. The leads in this dataset are followed-up by 11 different sales representatives, of which 8 also completed the survey belonging to this thesis. For these 8 respondents the questionnaire could be coupled to the lead processing dataset. A short overview concerning the number of participants active in each dataset is provided in Table 3. Eventually, the merged data file contained all information of 8 sales representatives, who together pursued 473 leads through the lead follow-up system.

Table 3: Participants overview

Number of employees involved with leads	Survey participants	System follow-up employees	Survey + System participants
29	19	11	8

4.3 Survey

For the survey a self-administered online questionnaire was used. The questionnaire is enclosed in Appendix A: Survey. The participants received an invitation via e-mail which included a link to the online survey. They were given three weeks to complete the

questionnaire. In these three weeks two reminders were executed. The online survey tool used to distribute the questionnaire was www.thesistools.nl. The tool offered several features to ensure a completed survey and to obtain the results. The results were delivered electronically, an excel file was provided.

The survey is composed with measures from existing studies and with new measures included specifically for this study. The validated measures from existing studies that were included in the survey were mainly based on the studies of Sabnis, et al. (2013) and Monat (2011). These measures were therefore previously formulated and tested, making them more reliable. The included new measures were inspired on the article used for the theoretical background of this research. The survey questions were categorized according to the different independent variables used in the conceptual frameworks presented in Figure 9 and Figure 11. Most variables were measured with the aid of a 7-point Likert-scale or dichotomous questions. Open questions were only included to provide additional information concerning earlier asked questions.

4.4 Measures

The independent variables that could be obtained with objective data are gathered with objective tooling. For example, the collected information concerning the processing time is gathered through the lead processing system, which is an objective measure. The other variables that required measures are acquired through multi-item measures to increase reliability and validity (Snijders, 2003), these are subjective self-reported measures. Each item of the survey is given a unique code; this coded questionnaire including the sources of the questions is enclosed in Appendix B: Questionnaire with coding and references. The objective data that was gathered with the online-generated lead program for the second quartile of 2014, shows several elements of a lead. Depending on the source and type of lead certain characteristics are available. For each lead of the second quartile it is determined which characteristics are applicable for that specific lead. The characteristics a lead was assessed on are the ones coded LC or AT in appendix B. In other words the characteristics labelled as Lead characteristics and Ability/tooling. The dependent variable, processed online-generated leads, is measured based on the time in between lead entry and the first follow-up. For the hypotheses to be true, the time in between entry and follow-up needs to decrease (a negative relationship).

The theoretical framework was used as guidance for the survey questions. Besides questions related to the framework, questions concerning the current situation and some general information were included. The variables that were incorporated in the survey were all measured with a 7-point Likert-scale ranging from 1: totally disagree/ unimportant/ not applicable/ helpful towards 7: totally agree/ important/ applicable/ helpful or with open answers that were obliged to be filled with the number of hours or years depending on the question. The first category of questions included in the survey related to prequalification. The category measured the ability of the sales representative to prequalify leads through 4

items. The prequalification measure was adapted from Sabnis, et al. (2013). Secondly, the survey contained 16 items to measure lead characteristics. These items were originating from Monat (2011) and were there to provide insight in which lead characteristics are thought to be valuable by the sales representative. Thirdly, a measure was included concerning time allocation of the sales representative. Through 6 items it was measured how a person involved with lead follow-up deviates his time between follow-up and other activities. The following variable measured was managerial tracking. This variable was also originating from Sabnis, et al. (2013) and measured with the aid of 5 items on a 7-point Likert-scale. Fourthly, the measure for ability/tooling was included in the questionnaire. The variable was determined with 17 items to provide insight in the possibilities to enlarge the follow-up rate. The items were partly based on Sabnis, et al. (2013) and partly self developed. The current situation was measured as fifth, measuring their current lead follow-up activities. The measure contained 4 items, which were all open questions. Fifthly, the order of follow-up and the order of display were incorporated in the questionnaire. The variables were measured through 3 items which were based on Russel, et al. (2005). These measures were incorporated to be able to provide a better advice towards the involved organisation concerning lead follow-up. Sixthly, the questionnaire ended with some general questions related to the age, gender and time of employment in a sales function.

4.5 Analysis

This thesis used several analysing techniques to test the hypotheses. First, the reliability and validity of the dataset were tested. With the aid of Factor Analysis the dataset was validated, the measurement quality was determined. The Factor analysis examined whether or not the measured items had underlying dimensions, so called latent variables. A Factor Analysis was conducted for each of the items measuring the constructs of Prequalification, Lead characteristics, Managerial tracking and Ability & Tooling. For each dimension found a variable was created with the use of summated scales. Summated scale was used to combine the several individual measurement items into a single composite variable, through replacing the scores with the average score of the variables (Hair, et al., 2010). The reliability was tested with the aid of Cronbach's alpha (α), this measure tested whether the dataset consistently reflected the construct under measurement (Field, 2009). The α was extracted for the constructs of Prequalification, Lead Characteristics, Managerial Tracking and Ability & Tooling.

After the testing of the questionnaire dataset, the dataset was merged with the Lead dataset. This was done in order to connect the information of the processed leads with the questionnaire information of the sales representatives. The identification number of the sales representative was the common variable on which both files were merged. Because of the small sample size of the questionnaire data nonparametric analyses was required (Field, 2009). Nonparametric analyses were appropriate, since these do not assume a dataset that follows a specific distribution. Nonparametric tests are often not conducted on the actual data, but rather on the ranks of the actual data (Field, 2009). For the hypotheses testing a

nonparametric measure was most appropriate, the Spearman's Rank-Order Correlation. Spearman's correlation (r_s) is a measure of the strength and direction of the relationship between two variables (Laerd Statistics). According to Siegel and Castellan (1988) nonparametric measures, also called distribution-free techniques, do not make as much assumptions about the sampled population as parametric techniques. Besides the lack of assumptions, these techniques do often not focus on the numerical values of the observations, but rather on the ranking of the observation scores. The Spearman's correlation is a distribution-free measure of association. Meaning that the r_s examines whether there is a relationship between two variables and when the correlation is there the degree of it. Spearman's correlation necessitates that the variables have an ordinal scale, to allow the ranking of the variable scores. The r_s measure has no further assumptions that needed to be complied (Siegel & Castellan, 1988).

For the moderating variables it is possible to test whether there is an interactive effect between representatives that score high on the ability and tooling components and the ones that have a low score. The dataset is divided between low and high based on the mean score of the concerned variables. Besides calculating the Spearman's correlation coefficients, also the standard error of each relation is calculated. With the aid of the correlation score and the standard error for as well the high as the low values of the dataset it is possible to calculate the Z-score. The Z-score is used to determine whether the driver coefficients under high tooling sign differently in size from the coefficients under low tooling. The Z-score indicates whether or not the found coefficient is a random distribution or is significantly fragmented (interaction effect). To be able to state with 95% confidentiality that there is indeed an interaction effect the Z-score needs to be above |1,96|. Otherwise, there is no significant difference between the high and low sampled representatives. The Z-score is calculated with the aid of the formula from Paternoster, Brame, Mazerolle, & Piquero (1998). This particular equation is used since it aims to be not negatively biased, the probability of rejecting the null hypothesis is not greater than the reported alpha (Paternoster, et al., 1998). The discussed equation to calculate the Z-score is:

$$Z = \frac{b_1 - b_2}{\sqrt{SEb_1^2 + SEb_2^2}}$$

The questionnaire data also contained information concerning the workflow preferences as displayed in Figure 11: System-specific conceptual model for master thesis project. The answers to these questions are used to make recommendations for lead systems. Among these questions several open answer possibilities were present. The most relevant outcomes are discussed in chapter five.

5. Results

The current chapter describes the results of the conducted data analysis. In paragraph 5.1 the datasets are validated and their reliability is examined. The results of the Cronbach's α and the factor analyses are discussed. The actual outcomes of the analyses conducted are provided in paragraph 5.2, the Spearman's correlation is covered in this section. The final section, paragraph 5.2, highlights the outcomes of the study concerning the system influences in the processing of online-generated leads.

5.1 Factor analysis

This thesis conducted a factor analysis (FA) to define the underlying structure among the variables in the analysis (Hair, et al., 2010). In other words, the FA showed whether or not the items measured in the questionnaire reflected the intended constructs. A direct quartimin rotation was applied on the data, since the extracted factors are allowed to correlate with this rotation method. Due to the non-orthogonality and the low sample size of this study, extra attention must be given to validation (Hair, et al., 2010). The results for the FA's are shown in Table 4: Results Factor Analyses. As the table shows, the Kaiser-Meyer-Olkin measure of sampling adequacy (KMO) is for all measured constructs sufficient. Field (2009) stated the value of 0,5 as a bare minimum for the measure, values close to 1 indicate compact correlations patterns leading towards distinct and reliable factors. The conducted analyses showed that the factor extracted from Managerial Tracking is a great representation of all the items, while the construct Lead Characteristics should be handled with care. The Bartlett's Test of Sphericity measures the extent of relationship between the variables and needs to be significant (Field, 2009). As Table 4 shows, all the Bartlett's tests were significant ($p < 0,05$). The extracted factors are based on the number of eigenvalues above one. The final column in Table 4 displays the variance in the items that was explained by the extracted factors.

Table 4: Results Factor Analyses

Construct	KMO Measure	Bartlett's Test (sig)	Extracted factors	Variance explained
Prequalification	0,656	0,019	1	47,5%
Lead Characteristics	0,496	0,000	4	72,8%
Managerial Tracking	0,821	0,000	1	66,3%
Ability & Tooling	0,545	0,015	2	69,8%

Based on the FA the following factors are extracted from the items. The construct Prequalification was captured in the factor Prequalification (items: PQ1, PQ3, PQ4), equally the construct Managerial Tracking is caught in an eponymous factor (items: MT1, MT2, MT3, MT4, MT5). The construct Lead Characteristics is divided in four components called Success ability (items: LC4, LC6, LC7), Knowledge of lead (items: LC3, LC8, LC9, LC10, LC13), Willingness of lead (items: LC2, LC12, LC14, LC15) and Urgency (items: LC5, LC11). Finally, Ability & Tooling was classified in two factors named Representative information (items: AT4, AT10, AT13) and Response information (items: AT6, AT8, AT9).

5.1.1 Reliability

The outcomes of the reliability tests are provided in Table 5: Reliability – Cronbach’s α . Both the FA and Cronbach’s α indicated that the prequalification construct was a better representation without the (reversed) item PQ2. Therefore, that item was not included in further measures. Concerning the construct Lead Characteristics it was not necessary to exclude any of the items; this was also the case concerning the Managerial Tracking construct. However, the analysis showed that it was necessary to have a reversed scaling for the item LC11. Otherwise Cronbach’s α was negative. Ability & Tooling was a reliable construct; however it appeared not to be a very valid one according to the FA. Therefore, based on these two measures it was examined which items provided the best outcome, this resulted in excluding 9 of the 15 Ability & Tooling items. The value of α should be above 0,7 to indicate a reliable measure (Hair, et al., 2010). As Table 5 shows most of the data are a good reflection of the constructs measured. However, the urgency measure and representative information should be handled with care.

Table 5: Reliability – Cronbach’s α for the constructs and the extracted factors

Construct	Cronbach’s α	Construct	Cronbach’s α
Prequalification	0,696	Managerial Tracking	0,901
Lead Characteristics	0,735	Ability & Tooling	0,784
Success ability	0,736	Representative information	0,592
Knowledge of lead	0,746	Response information	0,728
Willingness of lead	0,757		
Urgency	0,659		

5.2 Analyses results

As mentioned in the previous chapter the hypotheses are tested with the aid of a nonparametric measure, the Spearman’s rank-order correlation. The results of the Spearman’s correlation measure when applied in this study are shown in Table 6: Overview of hypothesis testing. The hypothesized relationship that prequalification has a negative influence on the processing time of online-generated leads (hypothesis 1) was not supported ($r_s = -0,012$; $p = n.s.$) by the analysis. A not significant result holds that the null hypothesis cannot be rejected. In this case, the definition of the null hypothesis is that there exists no relationship between the variables prequalification and lead follow-up. The not supported hypothesis indicates that the screening and labelling of generated leads by the marketing department does not decrease the time before a lead is followed-up. The r_s measure showed that there indeed is a relationship between the lead characteristics and the processing time of online-generated leads. The relationships between the different components of lead characteristics are predominantly negative, except for one component. So, hypothesis 2 was partially supported. The components Success Ability, Knowledge of Lead and Urgency all had a slightly negative influence on the processing time of a lead ($r_s = -0,130, -0,216, -0,253$; $p < 0,01$). The negative r_s -value is in support of the hypothesis since it indicates that the time between entry and follow-up is reduced. Controversially, Willingness of Lead has a positive influence ($r_s = 0,182$; $p < 0,01$) on the processing of online-generated

leads. As can be seen from the items measuring the willingness of a lead, it is associated with the insight the lead provides in how eager he is to become a customer at this particular organisation rather than at another organisation. Perhaps a sales representative becomes too easy-going when a lead has hinted that he is eager to become a customer.

The third hypothesis of the study is also supported ($r_s = -0,210$; $p < 0,01$). The measure showed that there exists a small negative relationship between managerial tracking and the time before a lead is followed-up. Suggesting that when the degree to which managers review the follow-up of marketing leads by sales representatives increases, the time before a lead receives a follow-up decreases. The fourth hypothesis predicted the negative influence of an increasing amount of leads on the time in which online-generated leads are processed. This hypothesis was supported, the found correlation was negative ($r_s = -0,422$; $p < 0,01$). So, when the volume of the leads that are generated by the marketing department increases, the time before the leads are pursued decreases.

Table 6: Overview of hypothesis testing

Hypothesized relationship	Hypothesized effect	Spearman's correlation	Significance level	Hypothesis supported
H1. Prequalification → processing time	-	-,012	n.s.	No
H2. Lead characteristics → processing time	-			Partial
Success Ability → processing time		-,130	**	
Knowledge of Lead → processing time		-,216	**	
Willingness of Lead → processing time		,182	**	
Urgency → processing time		-,253	**	
H3. Managerial tracking → processing time	-	-,210	**	Yes
H4. Generated volume → processing time	-	-,422	**	Yes

** significance level of <0.01; * significance level of <0.05; n.s. not significant

The hypotheses concerning the moderating effects were tested by dividing the dataset in two parts based on the high and low scores of the ability and tooling components. The dataset was divided with the aid of a median split. The two ability and tooling components found were “information available towards the representative” and “information related to the required response”. The results of the Spearman's correlation measure when applied to test the moderating effect of the representative's information tools are provided in Table 7: Overview of moderating effect of the ability & tooling component Representative Information. The outcomes of the analysis related to the response information are provided in Table 8: Overview of moderating effect of the ability & tooling component Response Information. Concerning the Representative Information the hypothesized relationships are significant for the higher levels of ability and tooling, while there exists no significant effect for low levels of ability and tooling. So, as Table 7 shows there is a positive

Table 7: Overview of moderating effect of the ability & tooling component Representative Information

Hypothesized relationship	Hypothesized effect	Spearman's correlation		Significance level		Hypothesis supported	Standard error		Z-score
		Low	High	Low	High		Low (b1)	High (b2)	
Ability & Tooling									
H5. moderates H1	+	,000	,098	n.s.	*	Yes	,469	,053	-,208
H6. moderates H2	+					Partial			
Success Ability		,000	-,104	n.s.	*		,469	,052	,220
Knowledge of Lead		,000	-,221	n.s.	**		,469	,049	,469
Willingness of Lead		,000	,213	n.s.	**		,469	,049	-,452
Urgency		,000	-,248	n.s.	**		,469	,049	,526
H7. moderates H3	-	,000	-,194	n.s.	**	Partial	,469	,047	,412
H8. moderates H4	+	-,348	-,471	n.s.	**	Partial	,509	,049	,241

** significance level of <0.01; * significance level of <0.05; n.s. not significant

Table 8: Overview of moderating effect of the ability & tooling component Response Information

Hypothesized relationship	Hypothesized effect	Spearman's correlation		Significance level		Hypothesis supported	Standard error		Z-score
		Low	High	Low	High		Low (b1)	High (b2)	
Ability & Tooling									
H5. moderates H1	+	,124	-,071	n.s.	n.s.	No	,111	,052	1,591
H6. moderates H2	+					No			
Success Ability		,058	-,057	n.s.	n.s.		,101	,049	1,024
Knowledge of Lead		-,058	-,014	n.s.	n.s.		,101	,053	-,386
Willingness of Lead		,058	-,068	n.s.	n.s.		,101	,052	1,109
Urgency		-,058	-,096	n.s.	n.s.		,101	,038	,352
H7. moderates H3	-	,058	-,064	n.s.	n.s.	No	,101	,051	1,078
H8. moderates H4	+	,037	-,711	n.s.	**	Partial	,104	,048	6,530

** significance level of <0.01; * significance level of <0.05; n.s. not significant

moderating effect of ability and tooling on the relationship between prequalification and processing time. Higher levels of tooling related toward representative information have a larger effect than lower amounts of that specific type of tooling, in support of hypothesis 5 ($r_s = 0,098$; $p < 0,05$). Concerning the sixth hypothesis partial support is found. It was expected that higher levels of representative information would increase the negative effect of lead characteristics on the follow-up time, however as Table 7 shows this is only applicable for the component labelled as willingness of lead ($r_s = 0,213$; $p < 0,01$). The other three components have a negative influence on the relationship predicted in hypotheses 2 ($r_s = -0,104$; $p < 0,05$; $r_s = -0,221$; $p < 0,01$; $r_s = -0,248$; $p < 0,01$), hence the partial support for the hypothesis. For the hypothesis predicting a positive contribution of ability and tooling on hypothesis 3 is also found partial support ($r_s = -0,194$; $p < 0,01$). Partial since there is indeed a moderating effect, however this effect has a negative contribution on the relationship between managerial tracking and processing time. The same holds for the final hypothesis (hypothesis 8), that is also partially supported since a positive relationship was expected ($r_s = -0,471$; $p < 0,01$).

The outcomes of Spearman's correlation concerning the moderating effect of ability and tooling related to response information are presented in Table 8. The table shows that there are no significant correlations between response information tools and the relationships between the different constructs and processing time of online-generated leads. So, ability and tools related to response information do not indirectly contribute to a faster processing time of leads. However, the influence of response information on the relationship between lead volume and follow-up time does exist. Higher amounts of related ability and tooling have a negative moderating effect on the relationship described in hypothesis 8.

To show whether the examined correlations can be interpreted as a significant interaction effect the Z-score is calculated. As mentioned in the methodology, the Z-score shows whether or not high or low tooling have a significant different influence on the predicted relationship. The outcomes of the computation with the formula provided in paragraph 4.5 are displayed in **Fout! Verwijzingsbron niet gevonden..** For the outcomes to be not randomly distributed with a confidence level of 95%, the Z-score needs to be above the absolute value of 1,96. As can be seen from both tables, this is only applicable for the Z-score belonging to the moderating effect of response information on hypothesis 4. So, the above found influences of the various ability and tooling components are not significant enough to state that there is a noteworthy difference between high and low amount of tooling. Apart from the response tooling influence on the relationship between lead volume and processing time, this was significant.

5.2.1 Recommendations for accelerating the processing time

The previous section examined the drivers of the processing time. It showed what contributes to accelerate the follow-up of a sales representative. Based on these outcomes this section describes how the current follow-up process could be improved. The first

recommendation that can be made is that the marketing department does not need to screen the leads first on its potential (hypothesis 1). It should just gather them and then somehow present it to the sales representatives. The second possibility to improve the current process holds that the marketing department should try to gather certain information of lead (hypothesis 2). This is information should be related to the likelihood of success with the lead, the product knowledge of the lead and the time in which the lead would like to realize his purchase. The third recommendation that may be extracted is that sales managers should keep showing their interest in the follow-up process (hypothesis 3) in order to keep the sales representatives motivated. Recommendations concerned with the ability of and the tooling available to the sales representative could also be made. However, these improvements towards the current process are not provided in this section. These are discussed in the next chapter, because the lead presentation provides additional value to these recommendations. These results are described in the next section.

5.3 Workflow results

This paragraph discusses the results of the questionnaire regarding the workflow items, these questions were mainly open questions. Therefore, this paragraph describes the outcomes directly from the survey, instead of running an analysis first. The questions were asked to the participants to receive a good overview of their preferences concerning a lead processing system. Furthermore, this paragraph evaluates the proposition concerned with the workflow order.

The participants indicated that it is important that the leads have certain characteristics. One partaker mentioned that the demand must fit within the offered range of products and services. Another participator stated something similar. He indicated that the lead should have certain keywords, for example "SMS Gateway". Other answers were related to the urgency to use a product, the magnitude of the customer, appearance of the company website, familiarity with the company and insight in the usage of the products of interest. An additional frequently stated answer was related to the amount of knowledge possessed by the lead concerning the requested product usage and implementation.

Questions concerning the follow-up preferences of the participants showed that there is a disagreement between participants. The results are presented in Figure 12: overview system representation preferences. Some favour e-mail contact with potential customers, while others prefer a telephone or Skype call. This same randomness appears for contact with existing customers. Some participants do prefer e-mail over telephone regardless of the customer status. However, most of them have some thought on how to improve the present communication. Currently most of the participants have a process starting with receiving the lead, followed by (e-mail/telephone) contact to answer questions and understand wishes (multiple mails and/or calls), continued with a test account, contact concerning the experience (multiple mails and/or calls) and close the deal with a signed contract and live account. The mentioned recommendations concerning this process were

providing more information online, for example through a Frequently Asked Question (FAQ) page. Furthermore, it was stated that an automatically sent quote when the lead left a contract request would improve the process. Other indicated improvements are phone calls instead of emails and a reminder system for untreated contacts after x hours.

Regarding the order of display of the leads, 6 participants (35%) indicated to prefer an individual work queue. On the other hand, 11 participants (65%) would like to have a general work queue for the processing of online-generated leads. The argumentation for preferring the second option over the first is that it maximizes lead follow-up, back-up possibilities, general lead insight and also offers flexibility and efficiency. The preference for the individual work queue is there since there are specific markets and these queues give better overview, focus and responsibility. When asked to choose between an adjustable order of their work items or a predetermined specified order the participants are equally divided; 9 contestants prefer an adjustable order and 8 prefer a specific work item order. The arguments for the adjustable order fall in the category of being able to manage own workflow based on own qualities. While the arguments for a specific order are mainly suggestions for which order should be maintained, except for one who stated that this gives structure right from scratch, no ordering is required. This last statement is in support of the first proposition, which stated that a fixed lead presentation queue negatively contributes towards the time before processing an online-generated lead. However, as can be seen in Figure 12 there is quite some diversity among the participants, so proposition 1 is only partially supported.

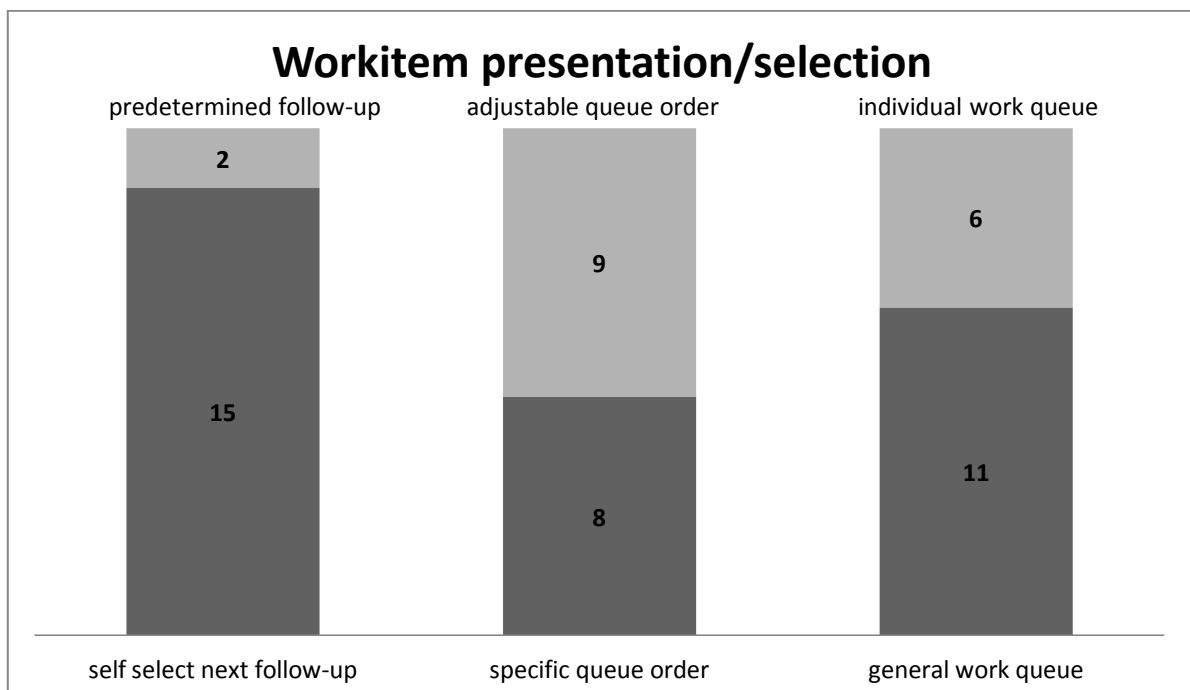


Figure 12: Overview system representation preferences

The participants were more unanimous concerning the order of follow-up. It was stated by 15 contestants (88%) that a personal choice to select the next lead to be followed-up is

preferred. Only two participants mentioned that they would prefer a predetermined order of follow-up. The reasons to select the next lead themselves are related to the possibility of qualifying the lead themselves before the actual follow-up. This is in support of the final proposition (proposition 2) that predicted that a flexible (not predetermined) work order is negatively related to time before a lead receives a first follow-up.

5.3.1 Recommendations for lead presentation

As indicated in the previous paragraph, lead presentation contributes to a faster processing time of online-generated leads. Based on the answers provided by the participants, the websites and the used information system should be able to support flexibility. The websites should display as much information as possible, such that the sales representative only needs to answer specific questions and not general ones. Besides, the used lead presentation system should be able to support the different workflows. The system needs to be flexible. It should support both e-mail correspondence and telephone communication with the leads. In addition, it can be concluded that the processing system should poses flexibility concerning the presentation of the leads. The sales representatives would like to have the ability to bring some personal structure in their lead overview.

6. Conclusion and discussion

This final chapter brings closure to the report through considering some final aspects. The first section discusses the results of the hypotheses. The remaining sections highlight the theoretical and managerial implications, the limitations of this study and possible directions of future research.

6.1 Discussion of results

Using nonparametric techniques and with the aid of the 8 earlier established hypotheses the main research question is answered. Nonparametric measures allow the researchers to make conclusions based on fewer qualifications. These techniques allow statements as: "Independent of the population shape, it can be concluded that ..." (Siegel & Castellan, 1988) However, such a comparable statement regarding the relation between prequalification and lead follow-up is not possible since the relationship was not significant (hypothesis 1). So, based on this study it cannot be stated that prequalification by the marketing department motivates sales representatives to follow-up leads faster. This result is in contrast with the findings of Sabnis, et al. (2010), while the same measure was used. The findings regarding the influence of ability and tooling towards prequalification was also in contradiction with Sabnis, et al. (2010). It was predicted that the relation between prequalification and the processing time of leads was influenced by ability and tooling. Hypothesis 5 predicted that higher amounts of ability would contribute more to the expected negative effect between prequalification and the processing time of leads than lower ability would. This hypothesis was supported. However, the used Z-score showed that there was no significant difference between high and low tooling coefficients. So, tools showing a representative how he can add value to the prospect enable a better appreciation of prequalification to follow-up a lead. The same holds for tools that provide the representative information concerning what he should do. Nevertheless, there was no difference between high and low ability and tooling.

The analysis showed there is indeed a relationship between lead characteristics and the processing of online generated leads (hypothesis 2). When the lead characteristics increase, the response time decreases resulting in faster processed leads. The characteristics are concerned with aspects of the lead that indicate the chance of success, the urgency of realization and the knowledge that the lead has of the product he is interested in. These outcomes are in agreement with the theories of Monat (2011) and Hasselwander (2006), who expected positive contributions. Except for the characteristics related to the willingness of the lead, which resulted in a longer time before follow-up. Perhaps when a lead shows a lot of willingness the sales person loses the motivation to follow-up. In the open questions, the survey participants also indicated that the knowledge of the lead concerning the requested product was important. The survey results indicated that the lead should possess hints concerning the suitability of the request with the offers of the organisation, such as keywords or a short description. The characteristics indicated by the participants are

comparable with the ones examined in the questionnaire. However, there is some contradiction with for example the willingness of the lead. The survey participants indicated they like to have information concerning the lead's perception and its product knowledge. It appears that ability and tooling do increase the negative relations of the lead characteristics on the lead processing time (hypothesis 6) and that the positive effect of the lead willingness is increased. Showing that ability and tooling does help to motivate sales representatives to process online-generated leads when it comes to the presence of lead characteristics. However, higher amounts of tooling do not contribute to a greater extent than lower amounts of tooling.

Managerial tracking does influence the processing of online-generated leads. When the amount of follow-up evaluation by the managers increases, the time before a lead is followed-up decreases (hypothesis 3). So, when a manager expresses the importance of quick lead follow-up, illustrates how one can best approach a lead and shows appreciation when it is conducted appropriately it increases the processing of online-generated leads. The effect of ability and tooling is negative. Ability and tooling decreases the negative influences of managerial tracking on lead follow-up. This is in agreement with the study of Sabnis, et al. (2010) and Verbeke, et al. (2011) who conducted studies related to the effect that supervisors have.

The expected relation between an increase in marketing lead volume and a decrease in follow-up time is indeed existing (hypothesis 4). This is in agreement with the literature of Sabnis, et al. (2010) and Smith, et al. (2006). This effect is antagonized by the presence of ability and tooling items. So, when a sales representative has more leads available for follow-up it is likely that he becomes more active in processing online-generated leads.

The two supported propositions showed that the sales representatives do understand the importance of a fast follow-up. This is shown by their preference for a general work queue from which most sales representatives do pursue the leads. However, a certain mechanism should be incorporated in the lead system, such that each specialism of the representative is guaranteed. Concerning the order of lead presentation it seems to be best that the leads are presented in an specific order in which the sales representatives are able to choose which lead they are going to follow-up next.

6.2 Theoretical implications

This study aimed to contribute to the current literature through gathering more insight in the first part of the sales process. To be more specific, to provide more knowledge concerning the processing time of a lead. As shown in the literature review the existing literature lacks in knowledge related to the processing of leads in the B2B-environment, especially the online-generated leads. Based on the existing knowledge, this study developed two theoretical models that exposed drivers of the lead processing time. These two models were combined from several frameworks. These frameworks indicated that prequalification, managerial tracking, lead characteristics, lead volume and lead

presentation influenced the processing time of online-generated leads. By including lead gathering elements as well as lead presentation elements this study combined two research fields. The combination of information system studies and sales-related studies resulted in a completer insight in the drivers of lead follow-up.

Generally, leads that an organisation receives are customer-initiated contacts. This study showed how proper lead gathering and processing can overcome the objections of a sales representative regarding his unfamiliarity with the customer. It showed that a lead must possess certain characteristics such that a representative experiences a certain success factor in pursuing the lead. Furthermore, it contributes to the literature in that it highlights the important characteristics and tools for sales representatives to process online-generated leads. It showed that such characteristics need to be explicitly asked in an online application, since there is no direct contact as with offline leads.

6.3 Managerial implications

Besides a theoretical contribution, this thesis also aimed to deliver a managerial contribution. The outcomes are of interest for organisation active in the B2B-environment and perhaps also applicable in B2C-organisations. Concerning a managerial perspective several points of recommendation can be found in the results of this study. First, managers should definitely show their interest and provide guidance when it comes to the processing of online generated leads. They should be actively involved in the follow-up process and provide advice by experienced troubles. Furthermore, a wide-ranging system that provides an overview of all the incoming leads is preferred above an individual working environment such as an e-mailbox when it comes to handling new leads. So, organisations could take this into account when (re)designing a lead processing system.

The outcomes of the analysis and the questionnaire could also be an indication for the marketing department which information they should try to gather from the potential customers on the website. These should be based on the found preferences of the sales representatives. So, the marketing department of an organisation should aim to gather insight in among others the urgency of the lead and his product knowledge.

Moreover, a lead follow-up system contributes to getting insight in the process a potential customer goes through before becoming an actual customer of the organisation. It enables the organisation to see who has interest in their products and who actually buys their products. This enables them to gather insight in why not all of the leads become a customer. For example, the organisation could contact the leads who entered the organisation through a website, but eventually did not become a customer.

6.4 Limitations and future research

This study is subject to several limitations. The limitations are related to the used sample size, the used questionnaire and measures. This study is conducted with the aid of a large lead dataset. However, the sales representative dataset was small only 19 participants

involved with online leads completed the dataset. As indicated in the methodology, for the study to be generalizable the number of respondents should exceed 20. The low sample size resulted in difficulties with the validity and reliability of the data. The low sample size was caused by the response rate and the amount of participants concerned with online-generated leads within the involved organisation.

Another limitation is found in the used questionnaire, parts of the asked questions originated from earlier validated questionnaires. However, other parts of the questionnaire were newly developed, lacking previous validation of the measured constructs. For example, parts of the statements used to measure ability and tooling were specifically developed for this study. Not all of these items were specifically concerned with the processing of online-generated leads; some of these could also be useful when following-up offline-generated leads. Perhaps these are influenced by an uncontrolled construct. An additional restriction is related to the open questions in the survey, the outcomes could be biased due to 'wrong' interpretation of the asked question.

Finally, a limitation could be found in the approach used to examine the influence of the workflow systems. The conducted study was not very elaborated. Therefore, there could be very interesting outcomes when a future study examines this aspect in more detail.

In addition, the outcomes of this study revealed more interesting directions that could be examined in more detail or make the outcomes of this study more reliable. A similar study focussing on the processing of online-generated leads using a larger set of sales representatives would improve the power of the findings. Furthermore, a dataset with representatives from a broader spectrum (multiple companies) would make it possible to examine a possible contrast between multiple lead processing systems and/or business activities. This could result in a better insight concerning explicit lead characteristics and tools of importance for online-generated lead follow-up. In addition, a comparison could be made between leads retrieved from consumers or leads from organisations. A study about the differences in the B2B-market and the B2C-market regarding required lead elements and tools.

References

- Chong, W., Shafagi, M., Woollaston, C., & Lui, V. (2009). B2B e-marketplace: an e-marketing framework for B2B commerce. *Marketing Intelligence & Planning* , 28, 310-329.
- Cooper, M., & Budd, C. (2007). Tying the pieces together: A normative framework for integrating sales and project operations. *Industrial Marketing Management* , 36, 173–182.
- Cullen, A., & Webster, M. (2007). A model of B2B e-commerce, based on connectivity and purpose. *International Journal of Operations & Production Management* , 27, 205-225.
- Field, A. (2009). *Discovering Statistics Using SPSS* (3rd ed.). SAGE Publications.
- Hair, J., Black, W., Babin, B., & Anderson, R. (2010). *Multivariate Data Analysis* (7 ed.). Upper Saddle River, New Jersey, United States of America: Pearson.
- Hasselwander, A. (2006, November 18). *B2B Pipeline management*. Retrieved March 11, 2014, from B2B Marketing Confidential : <http://b2bmarketingconfidential.blogspot.nl/2006/11/b2b-pipeline-management.html>
- Jobber, D., & Lancaster, G. (2012). *Selling and Sales management*. Pearson.
- Laerd Statistics. (n.d.). *Spearman's Rank-Order Correlation using SPSS Statistics*. Retrieved July 23, 2014, from Laerd Statistics: <https://statistics.laerd.com/spss-tutorials/spearman-rank-order-correlation-using-spss-statistics>
- Levin, A., Levin, I., & Weller, J. (2005). A MULTI-ATTRIBUTE ANALYSIS OF PREFERENCES FOR ONLINE AND OFFLINE SHOPPING: DIFFERENCES ACROSS PRODUCTS, CONSUMERS, AND SHOPPING STAGES. *Journal of Electronic Commerce Research* , 6, 281-290.
- Martens, J. (2014). *Literature review*. Eindhoven: University of Technology Eindhoven.
- Melnyk, S., Ghosh, S., & Ragatz, G. (1989). Tooling constraints and shop floor scheduling: a simulation study. *Journal of Operations Management* , 8, 69-89.
- Monat, J. (2011). Industrial sales lead conversion modeling. *Marketing Intelligence & Planning* , 29, 178-194.
- Moncrief, W., & Marshall, G. (2005). The evolution of the seven steps of selling. *Industrial Marketing Management* , 34, 13-22.
- Paternoster, R., Brame, R., Mazerolle, P., & Piquero, A. (1998). Using the correct statistical test for the equality of regression coefficients. *Criminology* , 36 (4), 859-866.
- Russel, N., Hofstede, A. t., Edmond, D., & Aalst, W. v. (2005). *Workflow Resource Patterns*. (Queensland University of Technology and Eindhoven University of Technology) Retrieved 2014, from Workflow Patterns: <http://www.workflowpatterns.com/patterns/resource/>

Sabnis, G., Grewal, R., Lilien, G., & Chatterjee, S. (2013). The Sales Lead Black Hole: On Sales Follow-Up of Marketing Leads. *Journal of Marketing* , 77, 52-67.

Siegel, S., & Castellan, J. N. (1988). *Nonparametric Statistics for the behavioral sciences* (2nd ed.). McGraw-Hill Companies.

Smith, T., Gopalakrishna, S., & Chatterjee, R. (2006). A Three-Stage Model of Integrated Marketing Communications at the Marketing-Sales Interface. *Journal of Marketing Research* , 43, 564-579.

Snijders, T. (2003). Multilevel Analysis. In M. Lewis-Beck, A. Bryman, & T. Liao, *The SAGE Encyclopedia of Social Science Reserach Methods* (Vol. II, pp. 673-677). Sage.

Söhnchen, F., & Albers, S. (2010). Pipeline management for acquisition in industrial projects. *Industrial Marketing Management* , 39, 1356-1364.

Standing, C., & Ling, C. (2007). Organisational Evaluation of the Benefits, Constraints, and Satisfaction of Business-to-Business Electronic Commerce. *International Journal of Electronic Commerce* , 11, 107-134.

Trailer, B., & Dickie, J. (2006). Understanding What Your Sales Manager Is Up Against. *Harvard Business Review* , 48-55.

Verbeke, W., Dietz, B., & Verwaal, E. (2011). Drivers of sales performance: a contemporary meta-analysis. Have salespeople become knowledge brokers? *Journal of the Academic Marketing Science* , 39, 407-428.

Wiesel, T., Pauwels, K., & Arts, J. (2011). Practice Prize Paper—Marketing's Profit Impact: Quantifying Online and Offline Funnel Progression. *Marketing Science* , 30, 604-611.

Appendix A: Survey

Master thesis project

You are asked to fill in this questionnaire because you are involved with the follow-up of sales leads. Leads are information requests from (potential) customers. This information request is the first hint of the (potential) customer that he is interested in the organisation's product. A lead can be retrieved from an existing customer when that customer is interested in up- or cross-selling. This study is interested in online-generated leads, meaning leads retrieved from websites or social media (e-mail, contact request, Leaddeck, Twitter, Skype or otherwise).

I am graduating at the education program Innovation Management at the department of Innovation, Technology Entrepreneurship & Marketing (ITEM) of the University of Technology in Eindhoven. With the thesis the aim is to contribute to the industry as well as to the academic literature.

The questionnaire will take you approximately 20 minutes to complete. The survey is distributed over 6 pages. At the end of the questionnaire is space available to leave any additional thoughts, remarks, comments or recommendations you might have.

I kindly ask you to answer all questions to the best of your knowledge. Each quest is asked in English you may answer the open questions in English or Dutch. Your answers will be handled with care and you will remain anonymous.

Good luck!

Start

Master thesis project

1.

Please indicate to what extent you agree with the following statements regarding online-generated leads: (Mark the applicable box, 1 mark per row)

	totally disagree					totally agree
I screen leads effectively	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I do a terrible job of filtering out cold leads	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am competent at throwing out low return generating leads	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I do a wonderful job of screening leads	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

2.

What characteristics are you searching for in a lead in deciding to follow it up or not? With other words, which indicators must a lead possess in order for you to believe it can result in a sale? *

Next page

3.

Please indicate to what extent you believe that the following statements regarding lead characteristics are important to be present when you notice the lead for the first time.
(Mark the applicable box, 1 mark per row)

	totally unimportant					totally important	
That the lead has approval for his purchase intend	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The lead has an existing product instead of start-up	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Information concerning the source of the lead	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Who contacted who (lead > CM or CM > lead)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The time in which the product needs to be realized	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
That the contact has decision authority	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Whether the contact is the CEO of the company	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
That you are familiar with the company	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
That the lead is a new customer or existing customer	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Insight in why & how they want to employ CM's product	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Information on involvement of competition for the task	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Availability of value calculations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Leads perception of quality of CM's products	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Leads perception of service delivered by CM	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4.

After viewing the above table, can you think of any other lead characteristics of which you believe they are important in the first contact with the lead? *

Next page

Time allocation

As an employee involved with the sales activities you have to allocate your time between different activities. You may come along leads that need to be followed-up. For the following questions please answer them as if you work 40 hours per week (8 hours per day).

5.

Time allocation in hours

How much hours per week do you spend on pursuing online-generated leads (received through e-mail, Lead deck, twitter, or other online channels)?

How much hours per week do you spend on pursuing offline-generated leads (received through phone, congresses, or other offline channels)

How much hours per week do you spend on non-sales activities (activities related to administrative obligations related to sales)?

Please indicate how many hours you spend per day on providing information toward leads that found the company online:

6.

Time duration

Please indicate after how much time you respond, on average, to an online-generated lead (i.e. an e-mail in your inbox) of an existing customer?

Please indicate after how much time you respond, on average, to an online-generated lead (i.e. an e-mail in your inbox) of a new customer?

Next page

7.

Managerial tracking of lead follow-up
Please indicate to what extent you agree with the following statements.
(Mark the applicable box, 1 mark per row)

	totally not applicable					totally applicable	
Call reports are used extensively by management to track the follow-up of company leads by salespeople	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My organization uses a lead tracking software system to monitor follow-up of company leads by salespeople	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tracking the follow-up of company leads by salespeople is done formally in our organization	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My supervisor is very involved in monitoring the follow-up of company leads by salespeople	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Management emphasizes sales managers tracking the follow-up of company leads by their salespeople	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

8.

Could you please describe what your current activities are when you come across a lead (potential or existing customer)? Please indicate whether and how your process for e-mail contact deviates from contact by telephone, twitter, Skype, Leaddeck or otherwise.

So, in example: Receive request in mailbox > contact lead and communicate 7 times so I understand his need and he has the required information > Send offer > Create testaccount > etc. Contact by telephone deviates in that 1 phone call is sufficient, before I send an offer (instead of 7 e-mails). *

9.

Do you prefer contact by e-mail, telephone, skype or social media with a lead?

New potential customer

Existing customer (up- or cross-selling)

10.

Do you have suggestions/ideas on how the time or communication steps between receiving the lead and sending an offer could be improved?

no extra ideas

Next page

11.

**Please indicate which of the following tools/resources would help you to follow-up on a lead which is not entirely part of your area of expertise.
(Mark the applicable box, 1 mark per row)**

	not helpful						very helpful
Information on what data should be gathered with a request	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Information on what kind of action is expected from you	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Information on where the lead originates from	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Availability of a mail template (suggestion for a follow-up)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Information on the product/service requested by lead	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Insight in possible concerns the lead might have	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Information on the context the lead probably is in	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
An indication of how urgent the lead needs a response	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Insight into the likely purpose of the lead	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Advice on how to approach this type of lead	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Clarification on what you can contribute to the lead	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Availability of a phone	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Availability of outlook	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Availability of an (other) online response program (i.e. Skype)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Availability of paper and pen to take notes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

12.

Do you prefer to have your own individual work queue with online-generated leads that are only offered to you? Alternatively, do you prefer to have a work queue with online-generated leads available to everyone?
Could you please explain your choice. *

Individual work queue

General work queue

13.

Do you prefer to select the next lead you are going to follow-up yourself or would you like the order of follow-up to be predetermined by a system?

Could you please explain your choice. *

Personal choice

System choice

14.

Do you prefer to be able to adjust the order in which the leads are presented or would you like the leads to be shown in a specific order, i.e. chronological?

Could you please explain your choice. *

Adjustable order

Specific order

Next page

Could please provide the following information about yourself?

15.

Gender: *

Male

Female

16.

Age: *

17.

Time since employment at CM:

Years

Months

Time spent on a job which involved the follow-up of online-generated leads:

18.

Additional space

If you have any additional thoughts, remarks, comments, or recommendations, you can leave them here.

no comment

Please press the SUBMIT SURVEY button below.

On the next page you will find some advertisements, you do not have to do any thing with them.

This is the end of the questionnaire. Thank you for your participation.

Kind regards,
Janneke

Submit survey

This is the end of the questionnaire. Thank you for your participation.

Kind regards,
Janneke

Appendix B: Questionnaire with coding and references

Prequalification

Originating from Sabnis, Grewal, Lilien, & Chatterjee, 2013.

Item	Code
1 I screen leads effectively	PQ1
2 I do a terrible job of filtering out cold leads	PQ2
3 I am competent at throwing out low return generating leads	PQ3
4 I do a wonderful job of screening leads	PQ4

Lead characteristics

Originating from Monat, 2011.

Item	Code
1 What characteristics are you searching for in a lead in deciding to follow it up or not? With other words, which indicators must a lead possess in order for you to believe it can result in a sale?	LC1
2 That the lead has approval for his purchase intend	LC2
3 The lead has an existing product instead of start-up	LC3
4 Information concerning the source of the lead	LC4
5 Who contacted who (lead > CM or CM > lead)	LC5
6 The time in which the product needs to be realized	LC6
7 That the contact has decision authority	LC7
8 Whether the contact is the CEO of the company	LC8
9 That you are familiar with the company	LC9
10 That the lead is a new customer or existing customer	LC10
11 Insight in why & how they want to employ CM's product	LC11
12 Information on involvement of competition for the task	LC12
13 Availability of value calculations	LC13
14 Leads perception of quality of CM's products	LC14
15 Leads perception of service delivered by CM	LC15
16 After viewing the above table, can you think of any other lead characteristics of which you believe they are important?	LC16

Time allocation

Based on Sabnis, Grewal, Lilien, & Chatterjee, 2013.

Item	Code
1 How much hours per week do you spend on pursuing online-generated leads (received through e-mail, Lead deck, twitter, or other online channels)?	TA1
2 How much hours per week do you spend on pursuing offline-generated leads (received through phone, congresses, or other offline channels)?	TA2
3 How many hours per week do you spend on non-sales activities (activities related to administrative obligations related to sales)?	TA3
4 Please indicate how many hours you spend per day on providing information towards leads that found the company online?	TA4
5 Please indicate after how much time you respond, on average, to an online-generated lead (i.e. an e-mail in your inbox) of an existing customer.	TA5

6	Please indicate after how much time you respond, on average, to an online-generated lead (i.e. an e-mail in your inbox) of a new customer?	TA6
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Managerial tracking

Originating from Sabnis, Grewal, Lilien, & Chatterjee, 2013.

Item		Code
1	Call reports are used extensively by management to track the follow-up of company leads by salespeople	MT1
2	My organisation uses a lead tracking software system to monitor follow-up of company leads by salespeople	MT2
3	Tracking the follow-up of company leads by salespeople is not done formally in our organisation	MT3
4	My supervisor is very involved in monitoring the follow-up of company leads by salespeople	MT4
	Management emphasizes sales managers tracking the follow-up of company leads by their salespeople	MT5

Ability/Tooling

Based on Sabnis, Grewal, Lilien, & Chatterjee, 2013. Also parts of these questions are self developed in cooperation with employees of the involved organisation.

Item		Code
1	Time since employment at CM:	AT1
2	Time spent on a job which involved the follow-up of online-generated leads	AT2
3	Information on what data should be gathered with a request	AT3
4	Information on what kind of action is expected from you	AT4
5	Information on where the lead originates from	AT5
6	Availability of a mail template (suggestion for a follow-up)	AT6
7	Information on the product/service requested by lead	AT7
8	Insight in possible concerns the lead might have	AT8
9	Information on the context the lead probably is in	AT9
10	An indication of how urgent the lead needs a response	AT10
11	Insight into the likely purpose of the lead	AT11
12	Advice on how to approach this type of lead	AT12
13	Clarification on what you can contribute to the lead	AT13
14	Availability of a phone	AT14
15	Availability of outlook	AT15
16	Availability of an(other) online response program (i.e. Skype)	AT16
17	Availability of paper and pen to take notes	AT17

Current Situation

No source.

Item		Code
1	Could you please describe what your current activities are when you come across a lead (potential or existing customer)? Please indicate whether and how your process for e-mail contact deviates from contact by telephone, twitter, Skype, Leaddeck or otherwise.	CS1

2	Do you prefer contact by e-mail, telephone, Skype or social media with a lead from a new potential customer?	CS2
3	Do you prefer contact by e-mail, telephone, Skype or social media with a lead from an existing customer?	CS3
4	Do you have suggestions/ideas on how the time or communication steps between receiving the lead and sending an offer could be improved?	CS4

Order of display

Based on Russel, Hofstede, Edmond, & Aalst, 2005.

Item		Code
1	Do you prefer to have your own individual work queue with online-generated leads that are only offered to you? Alternatively, do you prefer to have a work queue with online-generated leads available to everyone?	OD1
2	Do you prefer to be able to adjust the order in which the leads are presented or would you like the leads to be shown in a specific order, i.e. chronological?	OD2

Order of follow-up

Based on Russel, Hofstede, Edmond, & Aalst, 2005.

Item		Code
1	Do you prefer to select the next lead you are going to follow-up yourself or would you like the order of follow-up to be predetermined by a system?	OF1

General information

No source.

Item		Code
1	Gender	GI1
2	Age	GI2
3	Time since employment at CM	GI3
4	Time spent on a job which involved the follow-up of online-generated leads	GI4