Artificial Intelligence in Business-to-Business Sales Processes

The impact on the sales representatives and management implications

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Abstract

Key words: AI, Artificial Intelligence, Big Data, B2B sales, selling process, consultative selling, relational selling, change management

Background: The sales representatives in B2B companies are experiencing several changes in their environment, which have already altered their performed activities. In order to meet the new customer needs, Artificial Intelligence (AI) provides an effective usage of the large amount of complex data that is available, defined as Big Data. AI is developing intelligence that is human-like and is expected to impact occupational roles while threatening to automate tasks typically performed by humans. Previous technologies have already impacted sales representatives in the performance of their sales activities; however, it is still uncertain how AI will impact and benefit them. Previous empirical findings and the lack of studies centered on the individual impact of AI confirm the need for more academic reports.

Purpose: The aim of this research is to explore how the implementation of Artificial Intelligence and usage of Big Data in Business-to-Business selling processes are impacting sales representatives, in term of performed activities. Further, the aim is also to explore the management of individuals during the implementation of AI.

Methodology: This qualitative study is based on a realistic perspective with an inductive research approach. The empirical data has been collected through semi structured interviews with six AI-providers and two consulting firms that have proven experiences in working with AI and sales in B2B companies.

Conclusion: AI is characterized by its adapting capability as well as its ability to process and combine a large amount of real-time, online and historical data. As a result, the selling process is constantly provided with more accurate, faster and original insights. Through the analytical capacity of AI, the sales representatives are gaining extensive knowledge about the customer and the external world. Also, AI simplifies the creation and maintenance of long-lasting customer relationships by providing specific and valuable content. Administrative tasks and non-sales activities can also become automated through the usage of AI, which enables sales representatives to focus on their core tasks, for instance relationship building and value-adding activities. The threat of automation and elimination of jobs should be redefined into the possibility to augment human capabilities. By adopting this approach, the importance of the human-machine collaboration is strongly emphasized. In order to increase the willingness for changing working procedures at individual levels, the communication during the process of change should be centered on creating a positive perception and understanding of AI. It is also important to create trust for AI and promote a data-driven culture in order to ensure the systematic usage of the system.
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1. Introduction

1.1 Background

Current trends in the responsibilities of sales representatives are strongly influenced by the paradigm shift emphasizing the growing relevance of relationship marketing instead of the traditional transaction-oriented approach (Weinstein & Mullins, 2012). In the concept of relational marketing, companies are expected to create long-lasting relationships with the customers (Grönroos, 1994). Due to the changing context in which companies operate today, it is no longer possible to act only according to traditional sales principles, which meant a simple exchange of goods and services against financial means (Piercy, 2006) and involved order taking activities (Hunter & Perreault, 2009). Companies have to develop new strategies aiming at providing better and more effective services since creating close and reciprocal relationships have become crucial to obtain a sustainable competitive advantage.

The sales activities have also been influenced by the significant changes in B2B (Business-to-Business) buying behavior since the buying decision process often starts prior to the involvement of sales representatives (Adamson, Dixon & Toman, 2012). Customers actively search for companies through the use of the Internet which has resulted in the replacement or supplement of the activities performed by the sales force (Zahay, Schutz & Kumar, 2014). Angelos, David and Gaylard (2017) also recognize the changing buying behavior by revealing that 60% of B2B transactions are initiated in online environments. Furthermore, B2B customers expect to receive more personalized service and the easy access to information results in the customer being empowered and more demanding (Cuevas, 2018).

The large amount of data available in the society creates new possibilities for meeting the needs of the new customers and create long-term relationships (Moutot & Bascoul, 2008). The data abundance and its complexity are covered by the term Big Data, which emphasizes the need for companies to develop capabilities in generating insights from the data in order to make data-driven decisions (Chen et al., 2012). The tools related to its processing enable a more efficient and strategic analysis of the customer data as well as efficiency gains in the execution of the tasks of the sales force.

Big Data can be processed with the help of advanced analytics tools, as for instance Artificial Intelligence (AI) (Ghasemaghaei, Ebrahimi & Hassanein, 2018). AI can be defined as the intelligence demonstrated by machines, as opposed to natural intelligence which is seen in humans (Mc Carthy, 2007). The algorithms that AI is built on have the capacity to learn from data and are capable of improving themselves by learning new strategies.
Furthermore, Russell and Norvig (2012) define AI as any device that can perceive its environment and take calculated steps to maximize its success in problem-solving and the achievement of goals and tasks. These steps include mimicking cognitive functions that are seen in humans such as learning, planning, representation, reasoning and natural language processing. So far, according to the authors, some of these goals, such as learning and problem solving, have made considerable progress, whereas others are still in phases of infancy. The long-term goal is General Artificial Intelligence, which can be defined as when a machine performs any task that a human can perform.

Considering the trend characterized by data-driven and relational sales approaches, Artificial Intelligence opens up new possibilities in business environments for more effective use of the massive amount of data available (Fincher, 2018). The nature of the data that a company holds influences the potential applications of AI (Kaput, 2016).

According to a McKinsey report, the value that AI may bring along in the world economy is equivalent to $3.5 - $5.8 trillion (Bughin, Seong, Manyika, & Joshi, 2018). This report also reveals that most value will be derived from the business functions marketing, sales, supply chain management, and manufacturing. Several authors have already identified the potential applications of AI in sales and marketing approaches (Kietzmann, Paschen & Treen, 2018; Power, 2017). In B2B environments, the applications are varied and may include the implementation of automated bots as well as qualifying, following up and maintaining leads. Some authors argue that the implementation of Artificial Intelligence in B2B sales may lead to a significant gain of efficiency and time (Baumgartner, Hatami & Valdivieso, 2016).

The technologies that enable Artificial Intelligence have made great advancements in the last few years. The effects of AI on the society has for instance been discussed by Fölster (2015) who argues that computerization will cause 53% of the jobs in Sweden to disappear over the coming decades. With all its potential business applications, the author mentions that AI will certainly impact occupational roles and there is overall apprehension to automation, defined as the replacement of tasks typically performed by humans. Repetitive and manual tasks might be intelligently automated while new competencies may be required. In the future, a higher degree of automation is expected to emerge while machines also have the ability to complement the work performed by humans and create new tasks that humans are not able to perform on their own (Manyika & Sneader, 2018).

The required skill set and roles for the workers, including sales representatives, will change considering the impact that technologies already have on sales role (Moncrief, 2017). For companies, it is vital to understand these ongoing changes and adapt their strategies to this changing environment.
1.2 Problem identification

The impact of technologies on B2B sales environment is acknowledged in the literature (Christ & Anderson, 2011), especially in regard to social media as a new selling tool (Marshall, Moncrief, Rudd & Lee, 2012). Moncrief (2004) identifies several sales activities that have changed as a result of the increasing usage of technology in sales processes, while prior technologies have altered, removed and supplemented the role of sales representatives (Christ & Anderson, 2011). Also, Cuevas (2018) recognizes the need for new selling competencies that go beyond traditional persuasion skills. However, regarding the impact of AI on sales activities, Singh et al. (2019) reveal that digital technologies and AI present new challenges in regard to the role of sales representative and conclude that the nature and demand for the future selling function is uncertain considering the recent changes in technology.

Several authors also suggest to further explore the impact of AI on sales organizations. Moncrief (2017) suggests a study related to sales transformation as a result of the implementation of AI in the sales processes. In their study, Syan and Sharma (2018) identify the impact of AI in the selling process. However, they present the technical specifications of the technology rather than the impact on the performed activities and role, and do not consider the increasing importance of the consultative role of the sales representatives.

Furthermore, Arli, Bauer and Palmatier (2018) argue that it is highly relevant for future study to explore the role of AI in the building and sustaining of business relationships since relational selling is an approach that is widely adopted and expected to grow in importance. Those suggestions for further research emphasize the need for exploring the benefit of AI in sale processes, and more specifically regarding relationship building and consultative selling.

Huang and Rust (2018) mention two research directions related to the advancements of AI: the benefits associated with the usage of AI and the effect of AI on jobs. Empirical findings have shown that companies find it hard to fully understand the possibilities related to AI. Several companies as for instance SalesForce (2017) and Everstring (2018) have, through empirical studies, concluded that the opportunities related to AI in sales for B2B are widely lacking internal support and knowledge. The mentioned study from Everstring reviews the state of AI in B2B sales, and reveals that employees have broad expectations for AI although they are lacking a full understanding of this technology. The main part of the studied companies is still in the early stage of learning and appear to be uncertain of the impact AI may have on the organizations, which confirm the need for more academic reports that are aimed to be used at a higher level in firms.
Compared to the B2C (Business-to-Consumer) fields, B2B markets have received limited attention in academic research, even though the transaction on both markets in the US represents an equal economic value (Lilien, 2015). This finding also applies to the research related to AI in the B2B field in which authors have pointed out a research gap (Lopez & Casillas, 2013).

Considering the research gaps and the lack of studies centered on the individual impact of AI rather than the technical specifications of the technology, it is interesting to explore the usage of AI in B2B sales environments. It is of notable interest in regard to the impact on the relational role as well as the performed activities of sales representatives. Finally, Moncrief (2017) also identifies the implementation process of AI as an opportunity for further research, which emphasizes the need for studying the role of sales representatives during the process of implementation.

1.3 Purpose and research questions

The aim of this research is to explore how the implementation of Artificial Intelligence and usage of Big Data in Business-to-Business selling processes are impacting sales representatives, in term of performed activities. Further, the aim is also to explore the management of individuals during the implementation of AI.

The following questions are going to be answered in this study:

- What benefits do AI and Big Data bring in the selling process?
- How does the usage of AI influence the performed sales activities and need for human sales representatives?
- In the context of AI implementation, how should the sales representatives be managed in order to create a willingness to change their working procedures?

1.4 Limitations

The empirical data is collected from the perspective of the AI provider. As a consequence, the perspective of the end-user, that is the sales representative, and the perspective of companies that have implemented AI solutions are not considered. The implications of this limitation are an understanding of AI that is relatively positive, while no negative aspects of the technology are mentioned by the providers during the interviews. Also, it should be noted that the sales representatives may have different responsibilities and functions, for instance Key Account Manager or Field Sales Representatives.
This study does not consider the diversity of the functions of sales representative that has emerged during the last decade, but rather aims at developing a comprehensive understanding of the general impact on the function of sales representatives. Furthermore, this study excludes the technical understanding of AI. AI in the context of this research is studied in its broader context while the technologies that enable AI are not studied independently. It has been chosen to focus on the outcome of AI rather than on what specific technology that enables a certain outcome. The reasons for this limitation are the lower requirement for the researchers to gain technical knowledge and the intention to contribute with a more general understanding of the impact of AI in a sales context.
2. Theoretical framework

The theoretical framework is divided into three main parts: sales in B2B environments, an introduction to the concepts of Big Data and Artificial Intelligence and finally the process of change management. The purpose of the first part is to give a better understanding of B2B sales. It presents the performed activities of sales representative and processes as well as the relationship between sales and marketing functions. Additionally, it clarifies how B2B sales have evolved during the years as well as the reasons, implications and challenges of this development. The second part presents the concepts of Big Data and Artificial Intelligence as well as their business applications. The final part provides a theoretical understanding of how organizational changes can be handled from an individual perspective.

2.1 Sales in B2B environments

2.1.1 From suspects to customers

In a B2B context, sales and marketing are closely related (Jobber & Lancaster, 2009). The marketing function includes tasks related to anticipating and learning needs and trends, developing an understanding of the competitive arena, segmenting and targeting markets and developing a strategy to position a firm in these segments (Oliva, 2016). These tasks lay the foundation for the work of the sales team.

The multistep process that potential customers go through as they are evolving towards being an actual customer is defined as the sales funnel (Cooper & Bud, 2007). The sales funnel is also seen as the buying process that customers are led into. The sales funnel is usually adapted to each company and, therefore, created in different ways by different companies (D’Haen & Van den Poel, 2013).

D’Haen and Van den Poel (2013) present four stages of the buying process, which are illustrated in Figure 1. The stages are suspects, followed by prospects, leads and finally customers. The sales funnel begins with a list of possible and new customers, the so-called suspects, defined as all companies except from the company’s current customer base. Prospects are selected by marketers from the list of suspects and are thereby the potential customers that meet specific predefined attributes. The third stage covers the leads, that, in other words, are the prospects that are most likely to engage and therefore the ones that will be contacted. D’Haen and Van den Poel (2013) describe that the gut feeling, and self-claimed competence are usually determining which prospect to contact. In the final step, the leads become customers of the company.
Järvinen and Taiminen (2016) clarify that the sales funnel presented by D’Haen and Van den Poel is limited to the process of customer acquisition while already acquired customer are not considered in their model. Järvinen and Taiminen (2016) suggest including existing customers in the process and, therefore, see the sales funnel as a loop that already acquired customers can go through once again.

Sabnis, Chatterjee, Grewal and Lilien (2013) clarify the role of the marketing and sales departments in the sales funnel. Marketing departments spend a majority of their budgets on activities aiming at collecting information about prospective customers. Those who qualified to be contacted (leads) are communicated to the sales representatives. While marketing activities primarily focus on generating qualifying leads, the role of sales is to turn qualified leads into paying customer. However, according to Sabnis et.al (2013), studies have shown that salespersons actually contact only 30% of the leads provided by the marketing team while the remaining 70% are stuck in the “sales lead black hole”, which refers to the marketing generated leads that are not followed up by sales representatives. The reason is either a too big amount of generated lead or an active discard from the sales representatives. There are also issues related to the absence of follow up activities for those leads provided by the marketing department (Biemans, Brenčič & Malshe, 2010). The issue can be solved by integrating the sales and marketing systems (Wiersema, 2013). When doing so, marketing teams gain a better understanding of the customer and sales teams also know more about what activities the marketing teams are carrying out.

The success of the selling function is mainly driven by the ability to acquire a sufficient number of profitable new customers (Sabnis et.al, 2013). Sales representatives are expected to perform prospecting activities, that is, to contact leads, by calling or sending e-mails.
In this case, the leads are considered to be self-generated leads, in contrast to marketing leads provided by the marketing department. Prospecting requires the sales force to understand the value and necessity of it (Jobber & Lancaster, 2009). Also, sufficient product and market knowledge is needed to build trust and explore new relationships with prospects. Further, several processes are needed in order to coordinate and evaluate the completed activities. Processes aiming at profiling prospects can be used, for instance prospect scoring system, in order to ensure a sufficient return on time invested in prospecting. Building prospect-list is also an important process (Jobber & Lancaster, 2009). The generation, prioritization and communication of these lists to the selling function will determine the success of acquiring new customers.

It is also challenging for the sales team to assess the quality of the leads (Sabnis et al., 2013). It is, therefore, crucial to develop relevant lead qualification methods that are easily understandable for the sales force. In order to assess the value potential of a sales lead, lead scoring methods are used. According to Sabnis et al. (2013), traditional lead scoring is manually and based on relative important characteristics of leads. For instance, a potential customer may have a good ranking if the job title is account executive. In recent years, the authors explain that predictive lead scoring methods have been developed. Based on mathematical models and known good lead attributes, a computer calculates the likelihood for the lead to close a deal.

### 2.1.2 The impact of relational marketing on the sales representatives

In the early 90s, the concept of relational marketing introduced a new approach to marketing, which emphasized the importance of maintaining a long-term relationship with the customers (Grönroos, 1994). In this approach, it is important for companies to acquire and keep customers on the long-term.

Historically, personal selling has been discussed in the context of transaction-oriented sales (Jackson, Tax, & Barnes, 1994) and emphasized the importance of revenue generation (Wotruba, 1996). Demand stimulation, persuasion and short-term results have traditionally defined the role of sales (Weitz & Bradford, 1999). In this context, the role of salespeople was considered to be completed when the sales were done. However, the growing importance of relationship marketing has changed the traditional view of sales activities (Piercy, 2006). Since the sales force works closely with the customers, the sales representatives have a unique position for building long-lasting relationships. By getting to know their customers and their needs and thereby developing a customer relationship, B2B companies have the opportunity to increase sales by up to 50% (Stewart, 2005).
The sales organizations need to ensure that they have deep insights and understanding of the customers and the industries in which they operate (McCue, 2007). It is important that sales representatives identify, create, develop and propose different ways to integrate the goals for buyers and sellers while reducing the difference between them (Hunter & Perreault, 2009).

Further, Hunter and Perreault (2009) argue that the sales role today is relational, and the focus is on facilitating and helping the creation of new contacts and increasing collaboration with customers. Therefore, the salesperson acts more as relationship manager than order-taker (Hunter & Perreault, 2009). The sales representatives are at the core of customer relationship building and an effective sales force has been shown to have a direct impact on a sales organization’s success (Parsons, 2002). Parsons (2002) stresses that the seller is responsible for building up the relationship between the seller and the buyer and it is, therefore, necessary for the seller to possess the competencies needed to enable him to be convincing and trustworthy towards the customer.

Long-term and beneficial relationships are characterized by a high level of trust (Akrout & Diallo, 2017), commitment (Wilson, 1995) and satisfaction (Weitz & Bradford, 1999). Satisfaction is determined by the extent to which the customer’s needs are met or exceeded. Also, the sales representatives are in a unique position to influence the quality of the relationship (Parsons, 2002). Training is, therefore, a success factor in building valuable relationships and ensuring that the sales force understands how to create trust and inspire confidence.

Communication plays an important role in increasing trust and commitment between the seller and buyer (Mohr & Nevin, 1990). The authors mention four aspects of communication between buyer and seller: modality, frequency, direction and content. Modality relates to the mean of communication and content to the delivered message. In the aspect of direction, there is a distinction between one-way and two-way communication. One-way communication is conducted in e-mail conversation for instance. Face-to-face conversations and online discussions are examples of two-way communications (Mohr & Nevin, 1990).

Storbacka, Ryals, Davies and Nenonen (2009) conclude that sales are changing in three fundamental ways. Instead of being seen as a function, sales is argued to be a long-term process for customer management. Sales has also shifted from being an isolated activity to an integrated one. Also, the increasing importance of customer relationships has shifted the sales function from strategy execution to the involvement in strategy formulation and initiating strategic action (Storbacka el al., 2009). Sales have therefore evolved to a more strategic role instead of an operational one.
Moncrief and Marshall (2004) also acknowledge the strategic role of sales representatives by explaining that they are involved in strategic marketing activities, for instance market segmentation and market development. Following this evolution, four main strategic dimensions are considered in a sales strategy: customer segmentation, customer targeting, relationships goal development and use of multiple sales channels (Panagopoulos & Avlonitis, 2010).

Sales organization need to build customer knowledge. It is a strategic resource needed for strategy formulation and adding value (Piercy & Lane, 2009). The process of superior market sensing is crucial for creating strategic capabilities. It indicates how much knowledge a company has about the customers and markets. In contrast to marketing research, market sensing is the processes in the firms which develop enhanced management understanding about the external world (Piercy & Lane, 2009, p.36). Market research is rather about the collection and reporting of data.

Davies, Ryals and Holt (2010) mention that new competencies are required due to the relational approach in sales strategies and sales operations. Implications for the role of the salesperson are the application of specialized skills and knowledge as a fundamental unit of exchange and knowledge become a source of competitive advantage (Sheth & Sharma, 2008). Salespeople are expected to become knowledge agents instead of persuasion agents. In that sense, the customer is involved in marketing strategies and processes of value co-creation. Traditional sales methods can be used for smaller customers while certain customers require new approaches to create and maintain deeper relationships (Sheth & Sharma, 2008).

2.1.3 The selling process

The evolved sale process presented by Moncrief and Marshall (2004) is a modern approach to sales activities. It presents the actions that the sales force takes in order to complete a sale, which are illustrated in Figure 2. The process is an evolution of the traditional seven selling steps and takes into account the growing importance of customer-oriented approaches and relationship management. The steps do not take place for each sale but happen over time and nonsequentially (Moncrief & Marshall, 2004).
The first step, customer retention and deletion, aims at using the sales resources as efficiently as possible. 80% of the sales come from 20% of the customers (Moncrief & Marshall, 2004). Therefore, the first step in the process, include activities related to retaining high volume, high potential, and highly profitable customers. Accordingly, not all customers will receive the same attention and level of support (Lee, 2011). Customers are typically categorized based on their profit potential and the sales team will dedicate more effort towards the one with higher potential.

The second step defined by the authors is a pre-approach and emphasizes the need for the salesperson to gather relevant information about customer and competitor (Moncrief & Marshall, 2004). In B2B contexts, the selling team must understand the needs and interactions of the buying center in order to obtain a sale contract. It is critical to understand the activities in the buying process and the identity of the actors performing them (Jobber & Lancaster, 2009).

In the next step, the focus is on building a long-term relationship and create a win-win situation for the seller and buyer. Sales forces may also be involved in marketing functions. During the sale process, salespersons have several choices concerning the presentation support of the product or service. Traditionally, face-to-face presentations were preferred. The evolution of technology opened up new interactions and presentation opportunities, for instance, e-mail, website and even virtual meetings (Christ & Anderson, 2011). Problem-solving is also part of the process. The salesperson must meet the needs of the customer instead of only selling a product (Moncrief & Marshall, 2004).
Moncrief and Marshall (2004) explain that individuals from different positions within the firm are involved in the seven steps of selling previously mentioned. This is also acknowledged by Sheth and Sharma (2008) and they further mention that the selling organization is also impacted by the changing approaches. An implication is a shift of focus, from the individual salesman to the entire selling organization. They further discuss that the sales organizations are expected to move from solely being product experts to instead becoming customer experts in the future.

2.1.4 Consultative and transactional selling

Cuevas (2018) argues that traditional selling methods related to product-focused approaches are to some extent still relevant, while new related concepts have been introduced. Consultative sales has emerged in the literature as a problem-solving approach to selling.

The contemporary customers have probably researched information online concerning competitors and the wanted product (Lee, 2011). This activity has traditionally been executed by the salesperson, but the customer is now doing it themselves. There has been a change in channel delivery and provision of information. Also, Lee (2011) mentions that reorder is an activity that can easily be performed by the customers themselves through self-service technologies. The number of people who, prior to ordering through other channels, are searching for product information online, accounts for the majority of customers who place their order online (Storbacka et al., 2009). Previously, product knowledge and information specialist were the most important tasks that were part of the sales representative’s role. Nowadays, this has become a part of the marketing or customer service, which commonly is the place of the management of the website (Storbacka et al., 2009).

Cuevas (2018) makes a clear distinction between transactional and consultative selling. The transactional approach is related to a product-focused role with established processes and roles. Customer value is associated with the offering and self-service platforms are seen as an effective tool to deliver a service. Sales interactions are discrete and usually take place on online platforms or call centers. On the contrary, consultative selling integrates customer value in the value proposition, offers a differentiated value proposition for each customer and creates value through a co-creation process (Cuevas, 2018). The sales interactions are seen as a more complex approach and involve account managers, account teams as well as field sales force. The role of the salesperson is also strongly different from transactional selling. Salesperson takes on the role of relationship broker across boundaries and analyst. Consequently, the related competencies include more advanced functional, relational, managerial and cognitive competencies.
Rackham and Devincentis (1999) point out that it is important to also consider the buying process of the customer in order to identify value-adding activities. Figure 3 and 4 illustrate a typical buying process that includes the following steps: recognition of needs, evaluation of options, resolution of concerns, purchase and implementation. The authors have identified two main categories of customer and associate each of them with a specific selling strategy. Depending on the selling strategy, value creation occurs in different ways. The sales representative only creates value in the “purchase” step for transactional selling while the value is added during the whole buying process in consultative selling. They also stress the need for the sales force to shift from being value communicator to value creator.

![Figure 3 - Adding value in consultative sales (own elaboration from Rackham & Devincentis, 1999)](image)

![Figure 4 - Adding value in transactional selling (own elaboration from Rackham & Devincentis, 1999)](image)
2.1.5 The role of technology in B2B sales

In order to increase productivity and competitiveness as well as meeting customer demands, enterprises are spending millions of dollars on the implementation of technology solutions to serve these purposes (Marshall et al., 2002). The reason for B2B companies to invest in technologies is the belief that it will significantly improve their performance (Hunter & Perreault, 2007). In the context of sales, technology is driving higher productivity and efficiency in sales forces. With the development of information technologies, companies are able to create better communication within the sales force and in the buyer-seller relationship (Cardinali, 2014). The transfer of administrative and commercial information is thereby more efficient. Furthermore, the access, analysis and communication of information are facilitated by the use of technology (Hunter & Perreault, 2007). As a result, it becomes easier to propose integrated solutions as well as information sharing. Also, technology makes it possible to meet customer needs by converting data into useful information (Clark, Rocco & Bush, 2007).

In B2B environments, technology usage is often only perceived and used by the sales person while customers are typically not aware of the technology usage (Ahearne & Rape, 2010). Technology aims at increasing the efficiency of the sales force in targeting the right customers and leveraging the appropriate information to them. Technology can be used to assess the profitability of customers and increase the return on investment in the sales force (Sharma, 2006). It has been proven that not all long-term customers are profitable, and technology can be used to select the most profitable customer. With the use of sales automation technologies, more specific information can be provided to the customer. While customers have the possibility to collect knowledge about the product before the sales interaction, sales people see their role as that of problem solver (Sharma, 2006).

Sales technologies facilitate or enable the performance of sales activities (Hunter & Perreault, 2007). With the evolution of the Internet, new technologies are available to salespeople and customers. The use of technology has increased, and sales automation have become a strategic resource for the sales force. Also, the development and adoption of customer relationship management systems (CRM) enable the assessment of the profitability of customers on an individual level (Hunter & Perreault, 2007). These results can, later on, be applied to sales strategies.

CRM software's consist of several technologies and tools aiming at building a better relationship with the customers, for instance, sales automation and data storing (Kumar & Reinartz, 2012). They are built on the philosophy of relationship marketing and encourage customer loyalty as well as long-term relationships.
CRM can also be seen as a strategic process aiming at creating stronger relationships with customers that are perceived as highly profitable and valuable (Kumar & Reinartz, 2012). While relation marketing is concerned with keeping long-term relationships, the financial profitability of the customers is at the core of a CRM strategy.

Sales Force Automation (SFA) is defined as information technologies applied to sales situations aiming at supporting sales representatives during repetitive activities and increasing the efficiency of those tasks (Kumar & Reinartz, 2012). SFA also contains an effectiveness dimension since it can be used as a tool to build long-term relationships. Hunter & Perreault (2009) emphasizes that a majority of technological innovations have been developed to create new tasks rather than only automating existing traditional tasks. According to Hunter and Perreault (2009), the term sales force automation does not reflect the real intent or capability of sales technologies. The objective is not to remove a human’s performance of a task with a technology. Sales technologies are, therefore, not limited to automation, they can also add organizational capability and make salespeople more effective.

Besides CRM tools, relationships with a customer can also be strengthened with the use of marketing automation. The term marketing automation was first introduced in 2001 by John D.C. Little. It is used in software in order to automate marketing activities, for instance, customer segmentation and campaign management (Heimbach, Kostyra & Hinz, 2015). The concept comprises the observation and analysis of digital footprints of leads collected from digital channels. With this information at hand, companies are able to better understand customer behavior and personalize the content. The method is applied for potential and current customers and the content is accordingly adapted to the customer’s expectations and needs. By making the digital communication personalized, the relationship with customers is strengthened and customer satisfaction increases (Heimbach et al., 2015).

Companies learn about potential buyers through active and passive means (Heimbach, et al., 2015). The active approach includes information collected from directly asked questions while information related to past transactions and online behaviors are classified as passive approaches. Marketing automation and CRM systems are closely related. However, marketing automation exploits data both from unknown users and current customer to design customized communication.
2.2 Big Data and Artificial Intelligence

2.2.1 Understanding of the usage of Big Data

An increasingly larger amount of data is generated in today’s society (Franks, 2012). Companies are gathering data from business processes, monitoring the online activities of customers and potential customers, tracking behaviors on website, collecting data from sensors etc. Also, Franks (2012) explains that data can be generated by users on social media networks, by sharing with their community for instance daily activities, attended events and pictures. This data abundance is referred as Big Data.

Gandomi and Haider (2015) define Big Data as large and complex data requiring cost-effective solutions and analysis in order to derive valuable insights from it. Gandomi and Haider (2015) list three specific characteristics of Big Data, known as the 3Vs: Volume, Velocity and Variety. Volume refers to the enormous volume of data and velocity reveals the real-time nature of the data. The real-time data refers to the information that is delivered immediately after collection. Data can come in different formats, structure and diverse media type such as text, audios and photo. This distinct characteristic is defined as the variety of data. The Information Commissioner’s Office (2017) rather understand big data as “data which, due to several varying characteristics, is difficult to analyze using traditional data analysis methods.” (p7).

While a large amount of data is produced in the society, companies need to develop capabilities in managing and gaining insights from these in order to obtain a competitive advantage and make data-driven decisions (Chen, Storey & Chiang, 2012). Buhl, Röglinger, Moser and Heidemann (2013) explain that data is of high importance because it can help companies to gain insights on their prospects. With a better understanding of their potential customers, companies are able to create targeted content.

Due to the complexity related to Big Data, advanced analytics methods, also designated as big data analytics, have been developed (Ghasemaghaei et al., 2018). These methods enable the value extraction from large data set and can be used for more effective decision-making processes. They also offer the possibility to uncover several business information, as for instance patterns, markets trends and customer preferences. Big Data analytics encompass several processes and tool, as for instance statistics and AI (Ghasemaghaei et al., 2018). The difference between AI and the other analytical tools lays in the adapting capacity of AI (ICO, 2017). While other analysis tools are programmed to perform linear analysis of data, AI programs are able to independently learn from the provided data and adapt the output accordingly.
Value can be added with advanced data analytics in three main forms: description, prediction, and prescription (Sivarajah, Kamal, Irani & Weerakkody, 2017). Descriptive analytics have an information provider role. Variability within the data and relationship between elements are identified based on historical data. Predictions and insights based on past and actual data can be generated with predictive analytics with the help of, for instance, machine learning and data mining. The third type of analytics, prescriptive analytics, is an emergent theme in the literature (Sivarajah et al., 2017). It aims at recommending relevant actions and assessing their impact in regard to business goals and organizational requirements.

2.2.2 Artificial Intelligence

John McCarthy (2007) coined the term Artificial Intelligence and defined it as “the science and engineering of making intelligent machines” (p.1). The field of AI was founded on the claim that human intelligence can be so precisely described that a machine can be made to simulate. The field is broad and draws upon research from several interdisciplinary fields, such as computer science, mathematics, psychology, linguistics and philosophy. Intelligence is defined as the ability to achieve goals and may vary in degree while it is not clear which computational procedures are intelligent (McCarthy, 2007). For instance, intelligence may not only refer to human intelligence simulation, but also to the ability to better solve a problem through advanced computing.

Wirth (2018) makes a distinction between weak and strong AI. A very well execution of a specific task by a machine is considered to be “weak AI” or “narrow AI”. This includes task such as: choosing the correct e-mail headline or segmenting an immense audience into target groups (Sterne, 2017). "Strong AI" implicates "human thinking", is based on general knowledge, replicates common sense and pose a threat of becoming increasingly self-aware. Garwood (2018) refers to a third level of artificial intelligence: "AI Super Intelligence". This level of AI shows levels of intelligence that are of the higher caliber to human beings as well as the ability to fully control its existence. However, currently only "weak AI" is of relevance and thereby the focus of this thesis.

Depending on the scientific fields, different technologies are included in the concept of AI. Machine Learning is a technology among other and enable the storage and analysis of a large and complex set of data (Ward & Baker, 2013). Data is first collected, analyzed and provide an understanding of the current situation. Based on the collected data, machines make predictions that support humans in decision-making. Also, machines can make predictions, measure its outcome and change inputs in order to optimize the output.
The learned behaviors in the precedent processes are enabling the creation of new knowledge (Ward & Baker, 2013) and give computers the ability to learn without being explicitly programmed (Russell & Norvig, 2012).

Isaacson (2014) summarizes the application of AI for, on one hand, replacing humans through automation, and on the other hand augmenting humans. While the role of machines for supplementing and intensifying human capabilities is emphasized in the context of augmentation, automation results in the elimination of human input. The concept of augmented human intelligence through symbiosis between people and machines is not specific to AI and has been studied for several years in the broader context of computing. Licklider (1960) expresses the need for cooperation between humans and computers in the context of complex decision making. The symbiotic partnership enables a more efficient execution of intellectual operations than humans are able to perform on their own (Licklider, 1960). Syam and Sharma (2018) explain that in the nearest future, selling functions are going to be disrupted by new technologies, as for instance AI, and there will be a need for salespeople to coexist with AI.

Daugherty and Wilson (2018) identify the benefits of AI in amplifying human skills and creating productivity gains through the human-machine collaboration rather than in removing the need for humans in the workplace. The artificial aspect of the technology implies more rational decision-making. While emotions may influence human judgment, machines do not experience this form of constraint.

### 2.3 Change management

Hayes (2014) introduces the process of organizational change as seven core activities (Figure 5). While the five first activities are listed in a logical sequence, both learning and leading the people issues are occurring during the whole process. The first two steps involve recognizing the need for change and translating the need for change into a desire for change. Thereafter, it is important to define a clear vision that is supported by a detailed plan. The role of the management in the next stage of the process is concentrated on the communication and review of the progress.
Instead of considering change management as a process, this study is centered on the end-user in the change management process and what factors that need to be considered in order to assure the willingness to change work procedures.

The need for change can be triggered by external events or internal circumstances (Hayes, 2014). Technological factors are example of external events that a company may consider. Companies take into consideration the investments that competitors make in research and development and to which extent they adopt new technologies. It is also important to identify the availability of new processes and the obsolescence of current technologies. Customer requirements, market competition and regulatory demand are identified as external drivers. Internal drivers may include improving operational efficiency and process improvement. Hayes (2014) further mentions that when the recognition process is not managed carefully, companies risk to fail their change process or go through changes when it is not necessary. It is also explained that leaders sometime do not pay enough attention to the company’s wider environment and, thereby, fail to recognize the need for change. Also, many leaders only understand the need for change in term of technical activities, and, thereby, exclude the impact the change may have on individuals (Hayes, 2014). In order to avoid these mistakes, the author suggests to not only involve the top management in this initial stage, but also other levels in the hierarchy, e.g. sales team, that are working closer to the market and customers.

When the needs are identified, it is important to create a willingness to change in the company and persuade other to change (Hayes, 2014). Changes in the context of AI may involve new working methods and decision-making process (Holte, 2016). Individuals that are successful at their work but experience some difficulties in their daily activities are more likely to change (Pugh 1993 through Hayes, 2014). Also, Jones, Jimmieson and Griffiths (2005) consider change readiness to have a positive impact on the willingness to change. It is explained by the authors that employees with a positive approach to the impact of the change on their individuals’ roles and to the need for change have higher probability to accept the change. When the employees perceive the change as personally harmful, they will show resistance.

Hayes (2014) further explains that low trust in management as well as low tolerance for change are influencing the willingness of the employees to support change. In the context of Artificial Intelligence, Siau and Wang (2018) identify trust in the technology as an important aspect influencing the acceptance of AI. While trust in humans is affected by other humans and the surrounding environment, trust in AI is depending on the feature of the technology. A distinction is made between initial trust formation and continuous trust development (Siau & Wang, 2018).
The initial trust is considered to be enhanced when AI is represented as a loyal pet and decreased when it is perceived to be a “terminator”, that is eliminating humans (Siau & Wang, 2018). The continuous trust development is a long-term approach to trust influenced by the performance and purpose of the machine, easy usage, reliability and collaboration with humans. Also, misunderstanding regarding the job displacement effect of AI and its threat may alter the continuous trust development.

During the whole process of change, it is important to manage individuals and consider their issues (Hayes, 2014). Leadership, communication and motivating others are the main aspect that need to be considered. It is important to get the employees to understand the change, and what role they have in the process. Understanding and adoption are even more challenging is the context of technology-driven change management (Gardner & Ash, 2003). Gardner & Ash (2003) mention that the evolution of technology is inevitably causing changes in companies and increases the complexity of change management.

Communication is also mentioned by Luo et al. (2006) together with technical components as important factor to consider in the change management for a successful implementation of technological-driven change. Concerning the technical components during digital transformations, Bughi and Catlin (2017) argue that companies need to gradually adopt digital technologies in order to build a proper digital architecture. The authors have found that companies that have not adopted fundamental digital technologies (e.g. social media) before the implementation of AI will not benefit from the technology. Kolbjørnsrud, Amico and Thomas (2016) explain the importance of experimenting with AI and learning from each experience. Also, a diverse workforce with different and complementing experience should be in place.
3. Methodology

This section describes and motivates the choice of a qualitative research approach and the choice of semi-structured interviews for the acquisition of empirical data. Furthermore, it describes the selection process, how the researchers have taken into account ethical rule of conduct throughout the study as well as the approach in the analysis and interpretation of the collected empirical data.

3.1 Overview

The empirical data for this qualitative cross-sectional study has been gathered through eight semi-structured interviews. Each respondent has been chosen based on its proven knowledge of the application of Artificial Intelligence in sales departments. The eight chosen companies are categorized in two profiles. Six companies have developed and are selling their own AI-empowered software, while the two other companies are consulting companies with experience in implementing AI-software developed by third-party companies. It is also important to reflect on how the choice of the respondents has impacted the result of the study, and what measures have been taken in order to decrease the risk for biased and narrow results. Furthermore, the empirical data has been processed with a thematic analysis.

3.2 Research philosophy

Research philosophy takes into account the nature and development of knowledge as well as its extraction (Saunders, Lewis & Thornhill, 2009). It is necessary to undergo a selection process in order to choose the appropriate philosophy tailored to the purpose of the study. When taking into account the research philosophy already at the beginning of the study, the researchers avoid gathering irrelevant information and find it easier to analyze and use the collected data. Four categories of research philosophy are identified by Saunders et al., (2009): realism, pragmatism, positivism and interpretivism. Depending on the chosen philosophy, the research question will be approached in different ways.

Saunders et al., (2009) describe two main approaches to think about research philosophy that influence how the researcher sees the research process. Ontology refers to the nature of reality and is concerned with the researcher’s underlying assumptions on how the world operates. The clarification of what element of knowledge is acceptable within the field is defined in the epistemological thinking approach.

Since the intention of this research is to describe and explain the studied phenomena and conditions so objectively and neutral as possible, the pragmatism and interpretivism philosophies have not been considered.
Positivism could have been an alternative considering its value-free research. However, it is best suited for theory and hypothesis testing (Saunders et al., 2009). A realistic perspective was finally chosen, which implies that the reality that the senses are showing us is the truth and is independent of the mind. A scientific approach is assumed in the development of knowledge as well as in the collection and understanding of data.

With a realistic approach, the researchers aim to demonstrate relationships independent of subjective elements. The implications of this choice are a lesser focus on the personal experience of the interviewees and a stronger emphasis on the cause of their attitudes and actions. The researchers, therefore, consider general patterns instead of unique features. It is also of great importance that they act with research neutrality, in the hope to deliver objective descriptions of the studied context. The objectivity of the researchers is further explained in section 3.7.

### 3.3 Research methodology

The methodology is concerned with how a problem is approached and how related answers are found (Bryman & Bell, 2017). In the context of social science, the term refers to how the researcher chooses to conduct the study. According to the authors, two main different types of research methodology can be adopted: qualitative or quantitative. On one hand, a quantitative research method is relevant when the study is characterized by statistics and quantitative measures. The method aims at showing general patterns within a certain area that can be generalized to other similar situations. On the other hand, the qualitative research method is best suited for studies that are intended to answer the questions "how" or "why" and often used when there is a lack of relevant theories or research on a subject. In the data collection and analysis phase, the emphasis is put on words and sayings rather than quantification.

According to Bryman and Bell (2017), a prerequisite in quantitative research is that the phenomenon in focus can be defined and delimited relatively unambiguously, and then quantified. Since the studied area is relatively unexploited and requires some degree of interpretation, a qualitative method is best suited for this research. Also, the advantage of a qualitative study is the several perspectives that can be provided as well as the possibility to show relationships that are not as obvious as they may seem. Those aspects strengthen the choice of a qualitative approach.

The choice between qualitative and quantitative methods is also driven by which role the theory has in relation to the research. Traditionally, researchers use either an inductive or deductive approach (Bryman & Bell, 2017).
When applying a deductive approach, researchers typically start with formulating hypotheses based on existing theories that will later be empirically tested (Saunders, Lewis & Thornhill, 2009). A significant amount of already existing research is needed in order to investigate whether the theory correlates with practical observations or not. In the inductive approach, the researchers start from empirical data and then apply and link theories to the empirical findings with the intention to create a conceptual framework. In this approach, theory is developed from the empirical data and identified patterns (Saunders et al., 2009). While a deductive approach is well-structured, the researchers are more flexible in an inductive approach and are able to base the direction of the study on the collected data.

As previously mentioned, some general research is available related to the application areas of AI and how it can come to influence jobs in the near future. For instance, Fölster (2015) discusses possible scenarios where automation replaces human and, thus, creates a theoretical basis to further develop. From that perspective, this study could be theoretically driven and, therefore, involve a deductive approach. However, no studies specifically related to the impact on sales representatives were found. This lack of literature combined with the novelty of the studied area constrains the possibility to set up hypotheses that can be translated into researchable phenomena. Therefore, an inductive study is considered to be relevant in this research. Additionally, it was primarily an empirical problem that brought the researcher’s attention to this subject, namely the lack of knowledge regarding the application of AI in sales department of B2B companies. Following an inductive approach, this research has adopted a flexible approach to the data collection which has driven the direction the study.

Concerning the first research question related to the benefits of AI in the selling process, the theories of the selling process have not been related to the empirical findings with the goal to find correlations. Instead, theories of the selling process have been used in order to structure the analytical work. Therefore, it can be argued that the approach is inductive, since theories have been linked to empirical data in order to create a contextual understanding.

While the research is empirically driven, the research process of such is iterative and a literature review was carried out prior to collect data. This process was essential to ensure a knowledge gap in the literature and also for practical reasons to facilitate the design of an adequate interview guide. Furthermore, the theoretical framework has been adjusted as the empirical data was being collected.
3.4 Research design

The boundary between a cross-sectional study and a case study can in many cases be considered difficult (Bryman & Bell, 2017). In a cross-sectional design, the researcher collects data from more than a case at a certain time, which should result in a set of quantifiable data with a link to most variables. This aims at discovering generalizable patterns and different connections. A fundamental case study, on the other hand, involves a detailed and thorough study of a single case, focusing on the complexity of the particular case (Bryman & Bell, 2017).

A qualitative cross-sectional design offers the possibility to gather information and experiences from several companies, and, hopefully, find patterns between them (Bryman & Bell, 2017). Since it is relevant for this study to investigate if there is a difference between different AI-solutions suppliers, regarding the function, implementation and impact of AI, a cross-sectional research design was chosen.

3.5 Data collection

3.5.1 Selection of companies

The choice of the respondents is based on a strategic selection. Alvehus (2013) believes that this method is suitable to find respondents with specific experiences. It was decided that relevant companies should have developed an AI-software that can be implemented in sales or marketing processes. In this study, those companies are designated as provider. Consulting companies were also chosen with the intention to provide additional insights into the use and impact of AI outside the context of a specific solution. Further, the respondents have been chosen based on their combined experiences in both implementing AI-solutions and in sales or marketing related functions.

Developer and other technology-related roles involved in the creation of the software have been excluded from the selection, since the outcome of AI is of main interest in this study, not the development process of the technology in question. Furthermore, the studied companies differ in size and are not specialized in a particular industry. The selection is therefore relatively heterogeneous, which, according to Alvehus (2013), can contribute to more nuanced findings and unique practical examples. The final selection of the respondents is shown in the table below (Table 1). In summary, six interviews have been conducted with AI-solutions provider, and two with consulting companies. In the following empirical and analysis sections, the last names of the respondents will be used when referring to them.
Table 1 – Presentation of the respondents of the study

<table>
<thead>
<tr>
<th>Role</th>
<th>Name</th>
<th>Company</th>
<th>Classification</th>
<th>Interview duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Senior growth expert</td>
<td>John Eriksson</td>
<td>Curamando</td>
<td>Consulting</td>
<td>57 minutes</td>
</tr>
<tr>
<td>Senior consultant</td>
<td>Hanne Nikolaisen</td>
<td>Avaus</td>
<td>Consulting</td>
<td>80 minutes</td>
</tr>
<tr>
<td>CEO</td>
<td>Gustav Rengby</td>
<td>Redpine</td>
<td>Provider</td>
<td>52 minutes</td>
</tr>
<tr>
<td>Nordic Leader of Einstein initiative</td>
<td>Henning Treichl</td>
<td>SalesForce</td>
<td>Provider</td>
<td>49 minutes</td>
</tr>
<tr>
<td>Client Solution Professional</td>
<td>Magnus Jahrl</td>
<td>IBM</td>
<td>Provider</td>
<td>54 minutes</td>
</tr>
<tr>
<td>Real-Time Sales Expert</td>
<td>Emelie Malmquist</td>
<td>Vainu</td>
<td>Provider</td>
<td>65 minutes</td>
</tr>
<tr>
<td>Sales Director Sweden</td>
<td>Juho Antikainen</td>
<td>Liana Technologies</td>
<td>Provider</td>
<td>40 minutes</td>
</tr>
<tr>
<td>Senior Account Executive</td>
<td>Stefan Elfström</td>
<td>Oracle</td>
<td>Provider</td>
<td>55 minutes</td>
</tr>
</tbody>
</table>

A risk when using a strategic selection is that the researcher can be too strategic (Alvehus, 2013). The risk is to make the selection one-way or partial. In this study, it can be argued that companies developing their own AI solutions may have a predominantly positive attitude to AI. As a result, the study may be biased and lacking nuanced results. This is something that has been considered when designing interview questions and interpreting the collected information. Also, in order to ensure a valid result, the purpose of the study is limited to the benefits of AI, while the inconvenience aspects are excluded from the study. Therefore, the negative aspects of the technology have not been discussed during the interviews, only its limitation.

The choice of the respondents has also impacted the holistic view of the study since only some respondents have a comprehensive view of the technology and experience from diverse application areas of AI. For instance, Vainu and Liana only offer one product that is AI-empowered. The consequence of this choice of respondent may be an inaccurate representation of the reality since those respondents may lack a comprehensive view of the technology. On the contrary, IBM and SalesForce have been working with AI for longer time and have implemented AI in several different offerings.
Therefore, they may provide a wider understanding of the practical application areas of AI. In order to further reduce the risk of narrow results, two consulting companies have also been interviewed. Similar points of views were found between the consulting companies, the company with larger experience of AI and the companies with a narrower view of the technology. This suggest that the methodological choice has not impacted the validity of the results, since the respondents share some mutual understanding of the technology, regardless of their experience and expertise areas.

3.5.2 Structure of the interviews

For the collection of the empirical material, semi-structured interviews were conducted. The questions in a semi-structured interview are specified, but at the same time they provide the interviewer great freedom to deepen the answers when needed (Bryman & Bell, 2017). Since the intention is to reveal unknown behaviors and explanations, this structure is considered to be relevant. Also, semi-structured interviews were chosen in order to start from the topics identified in the research questions and key concepts (Bryman & Bell, 2017).

The interviews started from a theme and a certain framework in order to better structure the analysis work. Each theme has been supplemented with some key issues that had slightly different significance during each interview. The chosen interview technique gave the researcher the opportunity to vary the questions in regard to the order, significance and follow-up questions based on the respondent’s organization and context. Follow-up questions become important as the respondent’s responses can provide unexpected insights that may require additional questions to cover and deepen the specific area (Bryman & Bell, 2017).

3.5.3 Execution of the interviews

The interview guide used in the study (Appendix 1) has been developed after the formulation of the preliminary theoretical frame of reference. According to Bryman and Bell (2017), it is beneficial to acquire basic knowledge of the studied area before the data collection, in order to ensure that the interview questions relate to the themes that are of interest. The eight respondents were interviewed by telephone or video conference. The reasons for using these methods are mainly the time and the cost saving aspects. According to Bryman and Bell (2017), there are certain risks involved in the execution of telephone interviews, for example that technical difficulties may arise, and that interpretation of body language is hindered. For this reason, video conference was preferred, and only two respondents were interviewed by telephone.
After the respondents gave their approval, all interviews were recorded in order to enable the transcription (see section 3.6). In order to further minimize the risk of technical problem, two recording sources were used. Bryman and Bell (2017) believe that the recording itself can make some respondents tense or worried. Since the respondents expressed themselves in a similar way regardless of the recorder being on or off, it can be assumed that no negative impact occurred.

3.6 Analysis of empirical data

In order to obtain an accurate representation of the respondents’ answer, each interview has been transcribed. The transcribed interviews were sent to the respondents in order to obtain a confirmation that their answers were correctly understood. The same procedure of respondent validation was repeated at the end of the research, in order to ensure the consistency between the results and the interviewee's own opinion (Bryman & Bell, 2017).

After the transcription, the relevant parts of the empirical data were selected and divided into themes, which is a procedure defined as thematic analysis by Bryman and Bell (2017). By careful reading the material, it has been possible to identify themes and sub-themes based on pattern in the collected data. According to Bryman and Bell (2017), when the researchers look for themes, it is recommended to consider repetitions, typologies or categories, metaphors, similarities and differences, linguistic links, missing data and data related to theories. In this study, the two main themes “AI in sales activity” and “AI implementation” are related to the research questions while the subthemes have been identified after the collection of the empirical data. The method was considered to be helpful for understanding and presenting the large set of the collected data.

3.7 Quality

Transparency is important to consider when assessing the quality of research (Alvehus, 2013). It implies that all methodological choices must be explained and motivated, in order to give other researchers, the possibility to conduct the same procedures and to be critical of the results of the study. However, Alvehus (2013) argues that total transparency can be complicated in qualitative work since the information from the interviews is so extensive. In order to maintain transparency throughout the research process in this study, all choices have been justified in an as clear way as possible. Furthermore, in order to assess the quality of qualitative studies, Bryman and Bell (2017) refer to four trustworthiness criteria developed by Lincoln and Guba (1985): credibility, confirmability, dependability and transferability.
The first criteria, **credibility**, is concerned with the data interpretation and the extent to which the study represents the reality just as experienced by the participants (Lincoln & Guba, 1985). There should be a guarantee that the answers have been correctly perceived, and the researchers should follow the ethical rules that are available in the research context (Bryman & Bell, 2017). In order to guarantee the credibility of the study, ethical research principles have been considered (see section 2.8), in addition to the respondents’ validation of transcript and study result (Bryman & Bell, 2017). By doing so, the respondents were given the opportunity to correct any misunderstandings.

The trustworthiness criteria **dependability** is, according to Lincoln and Guba (1985) closely related to **credibility**. It refers to the assessment of the quality of the measuring instruments and procedures for the data analysis. Lincoln and Guba (1985) mention internal audit as a method for assessing the dependability of a qualitative study, which has been used in this study. It implies that external reviewers have given feedback during the whole research process, which is considered to have a positive impact on the dependability of the study.

The **confirnability** criteria of the study is impacted by the conformity between the result and the collected data, which can be determined by the objectivity of the researcher (Lincoln & Guba, 1985). Because this study has a realistic perspective, which emphasizes the importance of the objectivity of the knowledge, it is an important quality criterion to be considered (Justesen & Mik-Meyer, 2011). The validation of the transcript from the interviews by the respondents is strengthening the research neutrality since it ensures that the results of the study are consistent with the respondents’ perception. It should be noted that the methodological choice strengthens the objectivity of the researcher, which differs from the objectivity of the respondents. Considering that all the respondents have a positive attitude to AI, the objectivity of the studied context can be argued to be lacking. Therefore, it is not guaranteed that all the respondents acted objectively in their way of describing the studied context. However, this does not impact the confirmability of the study since the researchers have ensured an objective interpretation of the data.

**Transferability** is defined by the extent to which the results can be transferred to other individuals, groups and contexts. For quantitative studies, researchers are expected to assess the external validity, for instance by defining the statistical confidence of the presented results (Lincoln & Guba, 1985). However, for qualitative studies, the comprehensive description of the selected studied groups and the presentation of the results determine the transferability. Therefore, it is important to present a detailed and understandable description of the selected studied entity and the results, in order to enable someone interested in making a transfer to decide whether transfer is possible.
3.8 Ethical considerations

The researchers have the responsibility to relate to ethical principles throughout the research process, from the choice of research questions to how the results are presented (Bryman & Bell, 2017). Prior to and during the study, considerations have consistently been given to the Swedish Research Council’s (Vetenskapsrådet, 2002) four ethical main principles for research, which are: information requirement, the consent requirement, the usage requirement and the confidentiality requirement.

By informing the participants in the study about the purpose of the study, both verbally and in writing, the information requirement has been considered. Information about the study was sent by e-mail to the respondents prior the interviews. At the time of the interviews, the respondents were given the possibility to ask any further questions and address concerns. Further, the respondents have been asked whether they want to participate in the study, and informed that they can cancel their participation at any time, which is important according to the consent requirement (Vetenskapsrådet, 2002) The usage requirement implies that information about the respondents and their answers can only be used for the purpose of this research, which has been considered by the researchers and the participants have also been informed of it. The empirical data and recordings are going to be deleted after the

Finally, by storing information and recordings out of reach of unauthorized persons, the confidentiality requirement is acknowledged (Vetenskapsrådet, 2002). It can be argued that this final requirement is not fully fulfilled, since this study mentions the name of the respondents and their companies. However, the respondents have given their consent and received a full transcription of the interviewees in order to ensure that no critical or harmful information that can be associated with the respondents are revealed.
4. Empirical findings

This section presents the empirical data structured in two main themes related to the research questions and several sub-themes that have been identified during the interviews. The first part introduces the reader to a comprehensive understanding of the technology with practical examples in sales contexts and presents the different data sources that can be considered in an AI-system. The future of AI is covered in the following part, with its implication for the human sales representatives. The second main theme aims at providing a contextual presentation of the implementation process, with the goal to identify the individual changes that are related to the implementation of AI.

Introduction to the AI-solutions of the provider

Six out of the eight studied companies are providers of AI-solutions, while two companies are consultancy firms that have experience in implementing AI-solutions. The companies and name of the respondents are listed in the table below (Table 2). IBM, SalesForce, Liana Technologies, Oracle, Vainu and Redpine are the providers in this study. The studied consultancy firms are Avaus and Curamando.

<table>
<thead>
<tr>
<th>Name</th>
<th>Company</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eriksson</td>
<td>Curamando</td>
<td>Consulting</td>
</tr>
<tr>
<td>Nikolaisen</td>
<td>Avaus</td>
<td>Consulting</td>
</tr>
<tr>
<td>Rengby</td>
<td>Redpine</td>
<td>Provider</td>
</tr>
<tr>
<td>Treichl</td>
<td>SalesForce</td>
<td>Provider</td>
</tr>
<tr>
<td>Jahrl</td>
<td>IBM</td>
<td>Provider</td>
</tr>
<tr>
<td>Malmquist</td>
<td>Vainu</td>
<td>Provider</td>
</tr>
<tr>
<td>Antikainen</td>
<td>Liana</td>
<td>Provider</td>
</tr>
<tr>
<td>Elfström</td>
<td>Oracle</td>
<td>Provider</td>
</tr>
</tbody>
</table>

IBM has developed its own AI platform, named IBM Watson, that can be implemented in several business processes and industries, including sales and marketing. AI is also used in the marketing tool IBM Campaign automation. SalesForce has integrated AI in their systems named Einstein (CRM-system) and Pardot (Marketing Automation).
The company Liana Technologies develops marketing automation tools and has recently introduced AI in their PR Cloud. Oracle has long time experience within the field of data processing, and also works within cloud application. For instance, they have developed Oracle CX Unity, that is a customer intelligent platform with build-in AI and machine learning for the purpose of creating real-time customer experience. Further, Vainu has developed a platform using AI-technology for the purpose of prospecting. Finally, Redpine offers software services within AI to personalize customer communication in real-time.

4.1 General understanding for AI and the role of data

During the interviews, the discussion about AI has undeniably been strongly associated with Big Data and data is expressed to be the foundation of AI by all the respondents. The collection of both external and internal data has been at the core of the discussions in the beginning of the interviews in order to better illustrate the benefits of AI specifically for sales and marketing.

4.1.1 General perception of the usage of AI in sales

When asked about the main function of AI in sales, Eriksson explains that AI can find analysis pattern in data sets that humans may not be able to figure out on their own, which mean that counter-intuitive patterns can be found. Several dimensions can be considered in the analysis, for instance, the day of the week in combination with the weather and the preferences of the buyer. AI operates until patterns are found.

“Manual analysis performed by data analysts can contribute on its own to 80% of the effects. AI provides the last 20%, which implies that AI typically improves current operations with 20%” (Eriksson)

The respondent also explains that AI is able to perform all the analytical process on its own if companies don’t have a proper analytical department when AI is implemented. However, this implies a more demanding implementation process.

Finding new patterns between data is also expressed by Jahrl as a main feature of AI. More specifically, it is underlined that data from the surrounding world, as for instance the weather or film release, can also be integrated into an AI model. With such a model, trends can be identified in a shorter and more efficient way than what humans are able to do.

“What AI does with increased data power is that it enables you to look at historical data that is correlated with real-time data and, thereby, you receive different recommendations” (Effström)
Elfström explains that Oracle uses the term “Adaptive Intelligence” instead of Artificial Intelligence, while AI as a concept has become slightly overestimated. Adaptive Intelligence is therefore a more accurate concept, according to the respondent, while it covers the difference between Artificial intelligence and Machine Learning. It is more about how to use the information in a more efficient and faster way, comparing historical information with current information.

Rengby introduces AI as a way to automate relatively complex processes that have been difficult to automate before. To some extent, the automation of activities is not always a result of AI. While this outcome can also be achieved solely through digitalization, AI creates an additional opportunity. Also, according to the respondent, the automation should not hinder the possibility to create a qualitative interaction with the customer.

“AI is the capability to handle many customers together with being able to provide as good service and offer as possible without having to have redundant manual interventions”. (Rengby)

Elfström mentions that AI takes automation a step further, and makes independent data driven decisions by combining data from different sources and evolves constantly based on new data. AI, at its most complex form, combines data in ways that none of us have the memory, capacity or time for, according to the respondent. This enables infinite amount of variations, and even more detailed individual customer experiences.

The opportunities related to AI also lay within some sort of automation, according to Treichl, who mentions smartness and intelligence as two keywords when talking about AI. It is explained that AI is all sorts of smart decision processes that help us to become better at decisions as humans. Also, AI can replace tasks, as for instance assessing photos, understanding text context and provide visibility into a pattern of data.

“AI is just another tool that can help companies either solve business pains smarter or maybe even help companies solving business pains that were difficult to solve before” (Treichl)

Smartness is also described as a characteristic of AI by Nikolaisen, while it is also mentioned that the smartness is strongly accentuated in online contexts, for instance on the company webpage. In order to create an AI-model with smart capabilities, the algorithm is required to possess a learning capacity. The AI-model need to be trained and constantly provided with new inputs, which emphasize the need for the collection of data from digital touchpoints such as from the company’s website.
The relative importance of training the AI-model is also highlighted by five other respondents. Antikainen mentions learning by doing when explaining what AI all is about. “AI don’t solve all the problems, since it is only as good as you are” (Antikainen)

Malmquist explains how AI is trained and used in the specific contexts of the platform that the company in question is offering. The importance of training the AI-model is described and illustrated by explaining how they constantly manually train their platform. With this approach, the company ensures that the AI-empowered platform always becomes better and better. The platform uses AI for analyzing texts with the goal for AI to be able to identify what are different parts in a given text. Manually, AI is taught to, for instance in a newspaper article, recognize the name of the company, event or individual name. Once this learning process has been done on a fair number of articles manually, AI learns to recognize patterns and is able to categorize different words and sentences into an event. “It is like teaching a child to talk” (Malmquist)

Based on examples provided by human input, the AI feature developed by Liana is able to recognize the tone of a news or online discussion, for instance if it is positive or negative. Antikainen also emphasizes the large amount of online data that can be processed with AI. “Overall in our platform, the whole idea of AI is still about making more sense to the data” (Antikainen)

It is also mentioned that more intelligence is added to the platform through the use of AI for semantic search, defined by the respondent as an interest-based search instead of a search only based on keywords. This type of search excludes non-relevant results that are for instance derived from homonyms.

Table 3 - Basic function of AI in sales

<table>
<thead>
<tr>
<th>Analysis of pattern in large and complex data sets and discovery of counter-intuitive patterns</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automation of complex processes</td>
</tr>
<tr>
<td>Built on current processes and provide with additional opportunities</td>
</tr>
<tr>
<td>Smart decisions support for humans</td>
</tr>
<tr>
<td>Analysis and classification of text</td>
</tr>
<tr>
<td>Tone recognition in text</td>
</tr>
<tr>
<td>Enabling historical data to correlate with real-time data</td>
</tr>
</tbody>
</table>
4.1.2 The role of data in AI

Before starting to engage with somebody as a customer or prospect, a company can only work with publicly available data, according to Treichl. Great insights and decisions can be provided by those data.

“Sales and marketing departments that are great at using publicly available data, for instance, social media or insights provided by public services, are going to succeed in the acquisition journey” (Treichl)

This vision is also shared by Vainu. Their platform combines data with what is occurring at a company. All relevant data related to the company that is publicly available on the web is gathered from for instance newspapers or recruitment platform. They have a database where they have listed all the companies in Sweden and collect information related to these companies. The findings from this process are made searchable on the platform. Antikainen also presents the company’s platform as a search engine that scan data from online discussions.

“Our platform crawls the web, examine all the information, and connect it to different companies” (Malmquist)

“It is not collecting any data in that sense. It is only working as a search engine and monitoring. It is as Google would collect data.” (Antikainen)

Every respondent agrees on the fact that highly valuable data can be extracted from a company’s website, which can, later on, be applied in an AI-model. More specifically, Rengby and Jahrl brought up that movement behavior on the website can reveal valuable information. Rengby brought up the application of AI for finding a correlation between different data set with a certain type of behavior. For example, a correlation may be found between visiting a particular URL and interest in a specific communication or product. For better insights, this data can be combined with data from logged in customers and customer registers. IBM has developed a software able to analyze user behaviors on a website and collect struggle points. In addition to data related to online behavior, Nikolaisen mentions that a company can also use third-party data, for instance personal interest, to enrich and complement the already acquired data.

Finally, in the discussion regarding the use of data captured from a company’s website, three respondents claim that the online data from the company’s website must be combined with historical data in order to develop a good AI-model based on it. Nikolaisen emphasizes this approach by explaining that a next-best offer and action would not be successful if only online data from the website is applied.
It is also necessary to know what products the customer has already bought, or if they were a previous customer that have turned. It is important to integrate different systems in order to gain an understanding of the customer and deliver the right solutions.

Elfström further emphasizes the importance of historical data in order to enable AI to work with different forms of models, analyze data and thereby make predictive analyzes. For this reason, few companies are able to use AI for this purpose when introducing new products, while the company lack historical data of the new product. This is according to the respondent a limitation of the use of AI when lacking historical data.

Table 4 - Categories and examples of data sources

<table>
<thead>
<tr>
<th>Data source</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Publicly available data</td>
<td>Newspaper</td>
</tr>
<tr>
<td></td>
<td>Recruitment platform</td>
</tr>
<tr>
<td></td>
<td>Social media</td>
</tr>
<tr>
<td></td>
<td>Press release</td>
</tr>
<tr>
<td>Internal data</td>
<td></td>
</tr>
<tr>
<td>• Historical data</td>
<td>What product the customer already bought</td>
</tr>
<tr>
<td></td>
<td>E-mails content</td>
</tr>
<tr>
<td></td>
<td>Information about existing products</td>
</tr>
<tr>
<td>• From the company’s website (online data)</td>
<td>Behavioral data / movement behavior</td>
</tr>
<tr>
<td></td>
<td>Struggle points</td>
</tr>
<tr>
<td>Third-party data</td>
<td>Personal interest</td>
</tr>
<tr>
<td></td>
<td>Weather</td>
</tr>
</tbody>
</table>

4.2 Benefits of AI for sales-driving activities

4.2.1 Processing of large amount of data

“The old-fashioned way of segmentation is not always good enough” (Treichl)

When AI is applied, a greater amount of data can be overlooked and patterns that humans would not look for are found. Instead of assuming that a certain type of people may be willing to buy the product, AI provides a different segmentation than the sales force thought. Eriksson explains that B2B has narrower target groups that are difficult to find, then AI works very well.
One can see, for example, that those who have a certain behavior are probably doctors, then AI can show advertisements for just that. Jahrl mentions that AI can give sales representatives the possibility to exploit trends when they emerge, which is considered to be more important than being the largest actor on the market.

Eriksson explains that AI gives the opportunity to attract potential customers on the website and examine what and how they purchase. The strong analytical capability of AI mentioned in the previous part enables accurate research for the specific attributes of the customers. By combining internal and external data, AI can give an extensive understanding of the customer. This is also discussed by Treichl. “Better customer experience is the result of better understanding and knowledge of the customer” (Treichl)

According to Jahrl, AI can also analyze motions on the screen. It can for instance detect that all the user leaves in the middle of a form, and not just a certain page, and the reason behind it. With this information at hand, sales representatives are able to better understand customers and take appropriate actions to win them back.

Three respondents explain that AI enables the creation of next-best action models. When online behavior is integrated into the learning process of the algorithm, a next-best-action model can be formed. With this trained AI-model at hand, an ideal price and offering are presented to the sales representatives based on the online behavior of the customer, according to Nikolaisen. Jahrl sees AI as an assistant able to provide recommendations that humans are not able to figure out their own due to the lack of provided information and provide an” outside the box thinking”. The decision-making process is shorter and more correct decisions based on data are done.

Elfström specifies that the real-time intelligence provided by AI enables an accurate identification of suspects with the highest probabilities to turn into paying customers. The sales conversion rate can be improved through next-best actions for the sales representatives.

Antikainen explains that sales representatives are able to monitor changes in positions through the use of the platform. With an industry search on the platform, the seller can see that a potential prospect has just been nominated as a marketing manager of a specific company. This event may imply a transformation in the company and the new situation may be a good opportunity for selling a specific product. The seller can find something that it would personally not have time to go through, while humans do not have the resources browse through the Internet all the time, the tool needs to do it for the seller. Antikainen further claims that this tool improves the job, makes it faster, increase the knowledgeable about the industry and the customer base.
Also, the semantic analysis gives the sales representative insights that help them measure and fine tune their selling activities even better. Furthermore, Malmquist claims that the benefit associated with their prospecting tool is the possibility to find companies on narrow searches. For instance, it is possible to search for all companies that are in Karlstad, who are currently recruiting developers and mentioning the word cat on their website. It is a way for salespeople and marketing to find the right company. They can narrow down their searches and focus on companies that are best suited for the offering.

Table 5 - The benefits of processing large amount of data

<table>
<thead>
<tr>
<th>Better segmentation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Better understanding of the customer</td>
</tr>
<tr>
<td>Finding and exploiting trends</td>
</tr>
<tr>
<td>Monitoring changes in industries and identification of new opportunities</td>
</tr>
<tr>
<td>Finding companies on narrow searches</td>
</tr>
<tr>
<td>Next-best action and recommendations based on evidence from data</td>
</tr>
</tbody>
</table>

4.2.2 Generation of personalized content

While internal data from the CRM system may be used in AI-models, Nikolaisen declares that the application of AI is not in the CRM itself. The applications areas of AI lays in engagement layers towards the customer, defined by the respondent as all contact between the customer and the company, both physical and digital. AI is applied for instance for creating personalized experiences on the website.

Eriksson declares that with the help of AI, it is also possible to investigate the response to message content and present personalized content in accordance with what the customers value. An AI-engine is able to identify if the customer prefers positive or negative content for instance.

Personalized banners on the internet (Facebook, Google, newspapers) can be displayed based on the preferred form of content. Those actions undertaken by the AI-engine aim at increasing the likelihood for the customer to visit the company's website and make a purchase. AI tests an extensive amount of combinations, times and frequencies to find the best way to target the potential customers and already acquired customers. Eriksson considers this process as sales-driven activities. The personalized content is also brought up by Rengby as a main benefit of AI. The respondent presents Redpines software as a support tool used for creating relevant customer engagement. In a millisecond, the website's design is updated based on which customer or visitor is on the website right now.
AI has the ability to determine what content have to be displayed in order to convert the visitor into paying customer and reduce the bounce rate. The benefits that AI brings along, in this case, is, according to Rengby, relevant content on the webpage for each customer that will increase customer engagement.

Following this explanation, a follow-up question was asked concerning the use of this AI-software in the specific context of B2B. Taking into account the longer selling processes in B2B sales compared with B2C, Rengby explains that specific and accurate content is shown on the website based on where in the selling process the potential customer currently is. For instance, new customers should be educated on why they should buy the product or service. In a later stage of the process, it may be more relevant to adapt the website and display suggestion for booking a meeting.

Personalization is also seen as a main benefit of AI by Nikolaisen, who explains that AI can combine interest, for instance, traveling to warmer countries to a unique experience on the website that matches the visitor’s interest. AI is mainly concerned with customer experience, according to the respondent. A website visitor with an IT function will probably see more technical content. On the other hand, more value-based content will be shown to a visitor with an HR-role in a company. The website knows what products and content should be displayed for each visitor and spare the user the need to look through the whole website.

Elfström mentions that AI creates a relevant communication with the customer. It can be useful, for instance, when defining segments for a campaign. A comprehensive view of the targeted recipients, potential prospects or existing customers, is created from online, internal and third-party data. Campaigns are tailored to each segment.

*Table 6 - Benefits of personalized content*

<table>
<thead>
<tr>
<th>Benefit</th>
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<tbody>
<tr>
<td>Personalized content based on what the visitor values</td>
</tr>
<tr>
<td>Website updated based on stage in the sale process</td>
</tr>
<tr>
<td>Combine personal interest of the visitor to a unique experience</td>
</tr>
</tbody>
</table>
4.2.3 Cooperation between sales and marketing

The role of marketers is to create awareness and nurturing the leads (Nikolaisen). When those leads are perceived as ready to buy based on their behavior, they are ready to be forwarded to sales. The digital touchpoints enable the measurement of user behavior and are an important part of an AI-model. By combining data from several sources, AI can reveal if a customer is ready to buy or not. The respondent claims that there is a correlation between how interested a potential customer is of a solution, and how ready it is to buy.

“The main thing, is to ensure that when you work with marketing, both for new and existing customers, that you convey that information to the various sellers effectively, so that the sellers can understand how the company communicates from the marketing department” (Elfström)

Vainu’s and Liana’s platform can be used both by marketing and sales departments and the respondents point out that these two business processes should work better together. Malmquist explains that marketing representatives can operate on the platform when they want to sort out prospects that have registered for an event or webinar. The potential customers that have registered can be handled on the platform and selected based on the extent to which they are perceived to be a good prospect. This list can, later on, be forwarded to sales representatives. Antikainen mentions that sales and marketing teams work towards similar goals, that is, generating more leads, being more known and improving the brand. The respondent explains that their tool creates more transparency in different activities.

“We don’t see marketing and sales as two different things. It is a teamwork, I also know more about the product when I talk to potential customer, because I am using it. “

(Antikainen)

4.2.4 Benefits of AI for retaining customers

Personalization and service are important in this context, according to Jahrl. The customer should get what they want at the right time. The interaction with the customer should be minimized and relevant in order to keep existing customers. AI should be able to understand as human beings, reason and develop an idea on its own. The automation is built on top of this.

Eriksson makes a distinction between supply and subscription products. Especially for subscription products and services, algorithms can predict that the customer is churning and can accordingly push out advertising to these customers that are about to churn.
Depending on which product is offered, it is either important to bring in new customers or to keep existing ones. Turn-risk model is also mentioned by Treichl when talking about the application of AI for retaining existing customers. Not only the model provided by SalesForce is able to calculate the likelihood for a customer to turn, but it can also provide the sales force with the top reasons for the turn. With AI, it is possible to analyze all the data at once and come up with smart actions (Treichl). By applying prediction, modeling and a strategy on top, a next-best-action suggestion for the most impactful actions can be provided to the service or sales employees.

Malmquist exemplified how Vainu’s platform can be used in this context by explaining how it is used for monitoring its own customer. Interesting events occurring by the customers are closely observed, for instance, the hiring of a new sales manager may imply a change in the selling tool, and the platform, therefore, need to adapt to this change. Other relevant events include expansion plans and negative financial growth. What they actually do is, they subscribe to different events by customers, which makes them more or less likely to extend their agreement or do some type of change that requires a contact from the selling company.

The above-mentioned system helps to monitor existing customers and ensure that they are satisfied, and that company keeps track of what is happening by the customer, without having to manually google or call them every two days. In a similar way, Antikainen explains that Liana’s platform gives the opportunity for the seller to set up searches and monitor a specific customer. The tone recognition capability of AI enables the identification of positive content and negative content written on the Internet that is related to this specific customer. The seller can be informed that some of these signals are affecting the customer relationship and be proactive with addressing the issue before it is too late.

*Table 7 - Benefits of AI for retaining customers*

<p>| | |</p>
<table>
<thead>
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</thead>
<tbody>
<tr>
<td><strong>Personalization and service</strong></td>
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<tr>
<td>Relevant interaction with existing customers</td>
<td></td>
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<tr>
<td>Predicting churn: give recommendation/smart action, push out advertising</td>
<td></td>
</tr>
<tr>
<td>Monitoring existing customers</td>
<td></td>
</tr>
</tbody>
</table>
4.3 Current and future responsibilities of the sales representatives

4.3.1 Human-machine cooperation

The future outlook of the cooperation between AI and humans is uncertain, which is expressed by all the respondents. For instance, Eriksson stresses that the development paths may be altered by new scandals and regulations (e.g. GDPR). Every respondent expresses difficulty in assessing the future impact of AI, but acknowledges that AI removes boring activities, which thereby enables the employees to focus on more valuable and fun activities.

“People will continue to do what they are good at. They are creative, passionate, can work with abstract data, dream, generalize.” (Jahrl)

AI works with large amounts of data and patterns that a person cannot see. We will move the focus from the boring monotonous work to AI and humans will be creative and dream and create new things, according to Jahrl. This is also discussed by Eriksson that further claims that AI will not result in unemployment. It is rather the opposite, while it enables the employers to perform more valuable tasks. “There will probably be fewer people in the sales force, but they will need to be more qualitative.” (Rengby).

Although, Treichl explains that there is still a knowledge gap regarding the possibilities of AI in the nearest future, while some people believe that we will have “iRobots” that does all of our required tasks, but emphasize the fact that this scenario is not realistic at the moment, but rather in the long run. For many years to come, it is more about providing people with capabilities that are smart, that allow them to perform a better job. This is also discussed by Eriksson that further stresses that AI is only going to be applied on top of existing processes, referring to the 20% extra benefit mentioned in the previous part of this chapter.

Nikolaisen explains that today many companies have already implemented a data-driven approach in their processes. The majority of them are in the next phase, which is integrating machine learning in their activities with the goal to, later on, achieve total automation of the process, for instance, automated text writing on a website. There is still a need for manual intervention today that probably will remain in the nearest future. Although, as companies increasingly adopt automated processes and data-driven decisions approaches, they will be more dependent on digital touchpoints and collected data instead of humans.

When asked if AI is going to replace humans, Eriksson claims that some are distrustful regarding marketing tasks and fear that AI may take over their job. It is argued by the respondent that AI can handle narrow domains but tasks such as coordination of marketing campaign cannot be performed by AI.
When considering the future development of AI, Nikolaisen discuss the balance between internal and external interests. For instance, considering the importance of creating a perfect customer experience, it may be relevant for a company to facilitate for the customer the process of termination of an agreement through an online service. Although, with the company’s interest in mind instead of the customer’s, this may not be a valuable decision since the easy-exit process for the customer is not always beneficial for the company.

Table 8 – Tasks of AI and humans

<table>
<thead>
<tr>
<th><strong>AI</strong></th>
<th><strong>Handling the boring and monotonous work</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Handling narrow domains</td>
</tr>
<tr>
<td></td>
<td>Applied only on current processes (20%)</td>
</tr>
<tr>
<td></td>
<td>Providing people with capabilities that are smart, that allow them to perform a better job</td>
</tr>
<tr>
<td></td>
<td>Adopting automated processes and data-driven decision approaches</td>
</tr>
<tr>
<td><strong>Humans</strong></td>
<td>Focusing and working with what they are good at:</td>
</tr>
<tr>
<td></td>
<td>• creativity</td>
</tr>
<tr>
<td></td>
<td>• working with abstract data</td>
</tr>
<tr>
<td></td>
<td>• generalizing</td>
</tr>
<tr>
<td></td>
<td>Manual intervention</td>
</tr>
</tbody>
</table>

4.3.2 Impact of AI on the activities of the sales representatives

All of the respondents express the difficulty in assessing the future impact of AI on the sales responsibilities. The two main themes that have emerged from the interviews are the factors influencing the need for sales representative in the future as well as the extent to which the selling and consultative roles of the sales person may be carried out by AI instead of humans. It is expressed that sales representatives are still going to be required while the performed activities are going to change.

Considering the application of AI today, the majority of the respondents discuss that AI impacts the performed sales activities, but not the role itself. Rengby explains that the role of the sales representatives has not dramatically changed. The change can, for instance, involve a better quality on leads and more qualitative work.
On the contrary, Malmquist has already identified a change in the role. “The role of the seller has shifted from just closing a deal to educating the customer and learning the customer something new” (Malmquist)

Further, four respondents express that the need for a sales representative is determined by the size and relative importance of the investment. Malmquist discusses that they are able to educate a user through automated guides. However, for purchase that involve many users and a more complex offering, a sales representative is strongly needed for educating and acting as a consultant. Two respondents mention that for less complex processes, the company’s webpage or a chatbot are probably going to take on the role of the sales representative. An example of process that AI is able to handle is the creation of service ticket, according to respondent Elfström.

The majority of the respondents express that a customer may not want to interact with an AI-driven chatbot when making a larger purchase. Even if a chatbot would perform as well as humans, the buyers would consider themselves as proper customers if they would talk to a human instead. The respondents emphasize that in regard to selling expertise, the chatbot does not even come close to a human salesperson. Further, Elfström expect chatbots to be an interface enabling a conversation with humans, rather than a machine replacing humans.

In the future, the selling person is expected to still have an important role in the context of personal selling and relationship building, according to four respondents. The human aspect in sales meetings is still going to be strongly appreciated in many years to come, according to these respondents. Nikolaisen also emphasizes the need to combine its role with the use of digital channels. It is also stressed that business models need to be more digital in order to have more digital touchpoints, which facilitate the use of AI-recommendation models. “The deal will still strongly rely on humans, no matter how much AI you have” (Eriksson).

Rengby acknowledges the increasing usage of automation in the future, while it is also mentioned that the sales representative will always be needed, especially for larger customer purchase. The size of the sales force will be smaller with a stronger focus on qualitative skills.

Jahrl believes that the sales representative will remain a seller, and AI will have a more consultative role. AI will still be an assistant that provides the sales representative with a good decision basis. The sales representative will thereby be responsible for making the last sales-decisions for example what to say to the customer, the final price or the selection of products for the customer.
This vision is also shared by Eriksson, who explains that AI is expected to support humans in decision making processes rather than making decisions on its own. “I believe that the role of the sales representative will move from the seller to a more consultative role” (Nikolaisen)

Unlike the other respondents, Nikolaisen expects the role of the sales representative to change dramatically while human’s intervention and handling will still be required and appreciated in sales. Activities such as implementation, service and education can probably be digitized in the future. In the context of complex and highly valuable sales, personal selling is expected to still be required in the future. Instead of having a selling role, the sales representative will have a more consultative role while the transaction itself may be digitalized, which is a prediction that two other respondents also make. Further, Nikolaisen explains that the day when all consumers or company representatives are ready to do everything online, then it must be online. “It will take a very long time before we no longer appreciate the human aspect of the human encounter” (Nikolaisen)

Elfström sees the seller shifting towards a total interaction consultant. Instead of only being responsible for selling, the sales representative is also acting as consultant that have a 360 view of the customer. While this approach has already been adopted by a few companies on the market, it is expected to grow in importance in the coming years. When talking about the consultative future role of the seller, Malmquist explains that there is still going to be a need for teaching the customer in using data in the right way.

### 4.4 AI implementation

#### 4.4.1 Customer understanding and expectation of AI

“We are part of the first minute of the first hour of AI” (Treichl).

Treichl describes AI as a difficult topic, hence the varied knowledge and understanding among customers. In a similar way, Nikolaisen argues that AI can be applied in diverse business areas and few companies succeed in making the most out of the technology. Rengby also acknowledges the lack of knowledge.

“People become more educated in AI, but there is still a huge lack of knowledge and understanding of AI and possibilities that the technology enables in their specific company” (Rengby)

“The truth is that there are few companies today who can do it in a really good way. It is a long journey to get there, to be able to apply AI and operationalize it. So, you have to have a lot of respect for the process that is required to create AI that can be applied to your company. It’s not just something you buy in” (Nikolaisen)
According to Jahrl, the understanding of the topic of AI is a generation issue that affects both the knowledge and interest of AI in a company. Early adopters tend to have a huge interest in testing the newest technologies, but the understanding is usually also highly dependent on the digital maturity of the company. The topic of digital maturity is also being discussed by Eriksson, while companies that are at the beginning of a digitalizing phase tend to lack a good overview of their data.

The companies have different starting positions which entail different levels of understanding of AI, which can also affect how simplified or difficult a possible implementation can be, Eriksson explains. Before the AI trend emerged, it was difficult to sell in that one would use machine learning, Rengby explains. It is easier today because there is a high interest in AI. This is emphasized by Nikolaisen, who refers to AI as a buzzword. Rengby also reveals that now it can be quite the opposite, while people get so interested in AI that they feel the urge to do something with the technology because of external pressure and fear of missing out, or because they receive orders from the management to do so.

Vainu has developed an AI platform for prospecting, which is proved to be a solution that not all companies have identified a need for yet. Malmquist thus explains that for this reason, Vainu works actively with educating the customer in that they actually need the tool that they have developed. They have noticed that their customers usually do not have a deep understanding of AI nor the interest but are rather interested in the results from the AI solution. Malmquist discusses that it is usually sufficient to explain that they crawl the web and all data are open data, leaving out the more detailed information regarding AI-technology. Consequently, they have instead chosen to design the platform in a way that does not require either a technical interest or understanding of AI and even leaving out the term “AI” when explaining how the platform works.

Elfström explains that AI is sold as an integrated part of their solution. At Oracle, AI is embedded in the product instead of being sold as a stand-alone component. It is explained that they do not use AI as sales argument, but the consequences of it. This vision is also shared by Antikainen. “The more you talk about AI, the more confusing it is for the buyer. We don’t talk about the features; we talk about delivering results” (Antikainen)
4.4.2 For a successful implementation of AI

4.4.2.1 Obstacles
According to Treichl, an increasing amount of companies are eager to implement various AI-solutions, but also see a lot of obstacles. They may be holding back a bit because factors like the high expenses that an AI-solution usually indicated and the aspect of time, while it is time-consuming in order to properly involve the entire team in the process. SalesForce has, therefore, developed a cloud service that focuses on simplicity in the sense that the customers are able to turn it on and have it up and running within a few months. Three respondents also stress the costly aspect of implementing an AI-solution. According to Nikolaisen, when used in the right way, the benefit of the AI-solution exceeds the cost.

Malmquist expresses that it makes it more difficult for them to attract smaller B2B companies with their AI-platform. Considering the cost and time-consuming aspects of the implementation, smaller companies may find AI less valuable than larger companies, according to Eriksson. Related to the above mentioned 20% improvement that AI bring along, it makes a greater difference and is more valuable for larger companies since the improvement can be worth millions. AI is therefore preferred when the number of customers is large and the firms have enough capital and data, Eriksson explains. Rengby argues that companies mainly benefit from AI in smaller sales, many and smaller sales are preferred.

4.4.2.2 Preparing for the implementation
When discussing the implementation process, all respondents emphasize the importance of starting with a business case. When making an AI business case, it is important to really understand what it means to the user, according to all of the respondents. It is important to have a sound business case that demonstrates the return on investment (ROI) that the AI-solution generates for the company, according to the majority of the respondents. When discussing the aspect of ROI, Jahrl emphasizes the importance of it in order to involve the entire management and other policymakers, which can be considered to be even more important than the technique itself. Rengby claims that it may not be enough to only involve data scientists since they typically do not have the business in mind, thus the importance of business cases.

“You need something, and you want something. You might need certain features, but actually what you want is the outcome of these features” (Antikainen)

All the respondents also mention the need for early on focusing on the business problem that needs to be solved. Jahrl emphasizes the importance of identifying bottleneck.
It is really important to not always use the term AI or other technical terms and instead take the technical knowledge and interest of the customer into consideration when communicating with them, according to Treichl. Some customers get confused and it is important to focus on the business pain. Eriksson explains the importance of distinguishing between a domain of problems that has a lot of structured data (e.g. marketing) and a domain of problems that do not have it (e.g. chatbot, human speech).

Further, according to Eriksson, some companies already have a Data Warehouse ready, then it is easier to introduce AI, but usually, that is not the case. When the company does not already have a good overview and understanding of the data, an additional process is required before the implementation in order to have better data. A relative important amount of “trash data” can obstruct the implementation possibilities, for instance, manually registered data in a Word document is difficult to integrate into an AI-model.

The quality of the data is therefore crucial for getting the best output possible. Treichl also mentions the importance of data. Questions related to the usage and trustworthiness of the data should be brought up at the beginning of the implementation process. The crucial role of the data in the implementation process has also been discussed by Rengby. Without enough pattern in the data, the implementation will not be successful. For instance, if a company only collect one data point for each visitor on the website, it will be difficult to find patterns. It is argued that all customer meetings are unique, and the outcome of AI depends for instance on the amount of known customer information and the design of customer meetings.

4.4.2.3 Internal factors

Nikolaisen discusses the need for internal capabilities in regard to AI, e.g. data analytics, in order to have resources internally in the company that can work on building the algorithms. There must be someone who can further develop the algorithm, according to the respondent. For a successful implementation of AI, Elfström emphasizes the relative importance of understanding the business processes instead of acquiring data scientists.

There are three implementation alternatives according to four out of eight respondents. Either a company develops an AI-system themselves from scratch, which would require a team of data scientists and in-house competencies or buys a complete solution from a third-party. The third approach is a hybrid, that is a combination of the two. The respondents stress that different approaches require a different type of in- house competencies. According to Eriksson, the more data-driven a company is, the more digital it is, the more people are able to understand and interpret data, the better. Without data scientist, a company would need help from a third-party e.g. consultants.
When it comes to improving activity in a specific business process or solving a specific business issue, there is no point in building it in-house, according to Rengby. In that case, it is better to surf the wave of technology. It is more relevant to develop its own AI-solutions for complex processes that cover several data sources or business systems.

None of the respondents mentions that the end-user requires specific technical competencies. Instead, softs skills and corporate culture are recognized to be important. Malmquist argues that Vainu’s platform is easy and fun to use. No digital competencies are therefore required to use the platform, only the willingness to learn and change work procedures. Treichl also express the need to change behavior in the business and exemplified a change by “You get coaching from your system, not only from your manager “. Considering the generation gap between decision-makers and end-users, Jahrl accentuates the need for associating both re-thinking approaches and experience.

“It is a combination with innovation. Those who sit and decide and control the money are in a generation, when the system is usually used by another generation. It requires a combination of new thinking and experience and linking them together. They must be open, they are more likely to pick in the user who has a new thinking, even it may feel wrong in the beginning, so they can take advantage of it” (Jahrl)

Two respondents express the need to make sure that the system is actively used in the company. Systematic processes and activities are required to encourage the active use of the system, according to Malmquist. Negative response after the implementation can be caused by the low motivation for using the system or lack of knowledge about it. The system developed by Vainu is a tool for their customer to pick up leads, which emphasizes the need for an active usage. Nikolaisen explains that the employees have the responsibility to continuously use the system and create a “living system”. Also, the two respondents stress that the design of the system should be simple and easy to use in order to assure an active usage.

All the respondents also discuss education as a success factor for the AI-implementation. At IBM, the education for the customer is based on a trainer-trainer approach. It means that a group of employees is trained, who, in turn, educate other employees. During the discussion of education, Treichl mentions that the end-user must understand the reasons and impact of the implementation, for instance why a specific process is being automated and why they should rely on the system. Considering the importance of data in this context, it is crucial to remind everybody that the data is important. Malmquist explains that their platform is only the foundation of their work. Vainu is also actively involved in customer education in sales and usage of the platform and promotes data-driven approaches.
Table 9 - Aspects to consider for the end-user

<table>
<thead>
<tr>
<th>Willingness to learn</th>
</tr>
</thead>
<tbody>
<tr>
<td>Willingness to change work practices (new ways to make decisions, must use the system)</td>
</tr>
<tr>
<td>Ability to work in data-driven culture</td>
</tr>
<tr>
<td>Understand why AI is implemented, and how it impacts them</td>
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</tbody>
</table>
5. Analysis

5.1 Impact of the usage of AI and Big Data

5.1.1 The role of data in AI

Franks (2012) mentions that many data sources are available in the society today, which according to all the respondents is beneficial to AI. Finding correlation between different data sets with a certain type of behavior is possible through the application of AI. For better insights, this data can be combined with data from logged in customers and customer registers (Rengby). In addition to data related to online behaviors, a company can also use third-party data in order to enrich and complement the already acquired data and historical data in order to enable AI to work with different forms of models, analyze data and thereby make predictive analysis’ (Elfström). Although, companies lack historical data of new products and they, therefore, have difficulties using AI for these products. For this reason, few companies are able to use AI for this purpose when introducing new products, while the company lack historical data of the new product. This is according to the respondent a limitation of the use of AI when lacking historical data.

What differentiates AI from other analytical tool is its adapting capacity (ICO, 2017). The model needs to be provided with data in order to learn and adapt the output. Machine Learning, an enabler of AI, is giving computer the ability to learn without being programmed by humans. Human intervention is not needed for the creation of the output, since the machine is able to make decisions on its own. It is mentioned by five respondents that, in order to create a model that can independently adapt the output, it is necessary to train the model. Training enables the development of smart capabilities that allows the AI-model to adapt the output. Antikainen and Malmquist discuss that the AI-model need to be manually trained and constantly provided with new data. It is a learning by doing approach that requires time, human intervention and a great amount of data.

AI learns to recognize patterns and is able to categorize different words and sentences into an event (Malmquist) and even recognize the ton in a given text (Antikainen). Also, it is able to find pattern in data sets that humans may not be able to figure out on their own (Eriksson, Jarhl) and thereby provides visibility into a pattern of data (Treichl). Some of these patterns can be found by humans also, but they lack the memory, capacity or time to combine the data in the same way that AI does (Elfström). This analytical capacity can be related to descriptive analytics mentioned by Sivarajah (2017). However, in contrast to descriptive analytics, AI does not only consider historical data in the analysis, but also real time data (Elfström). The unique feature of AI lays in its ability to combine real-time data with historical data.
The third type of analytics, prescriptive analytics, aims at recommending relevant actions and assessing their impact in regard to business goals and organizational requirements (Sivarajah, 2017). By applying prediction, modeling and a strategy on top, a next-best-action suggestion for the most impactful actions can be provided by AI to sales employees (Treichl).

Two characteristics of Big Data identified by Gandomi and Haider (2015) velocity and volume are, therefore, considered to be enabler of AI rather than challenging. A great amount of data is needed for its training, and AI can find pattern and create value from the large data set. The velocity characteristic of the data is also crucial for training the model since it is constantly using real time data to evolve. The third characteristic of Big Data defines the variety of format and media characterizing the data. Variety has not been a main theme during the discussions with the interviewees, even though some respondents mentioned the structure of the data being a challenge when implementing AI. It has, therefore, not been identified as an enabler, but rather a challenge that management need to deal with.

Bughi and Catlin (2017) explain that digital technologies need to already by adopted in companies before the implementation of AI. Digital maturity is determining the success of the implementation while companies with lower degree of digital maturity lack of a good overview over the data (Eriksson & Jahrl). The quality of the data is influencing the possibilities related to an AI-model. Treichl emphasizes this important element, and also mentions usage and trustworthiness of the data to be considered. Not only companies need to be digital mature, but there must also be sufficient pattern in the data (Rengby).

During the interviews, the variety of the data sources has been considered to be important. More specifically, the variety of data sources from online sources has been identified. Social media, newspaper, company’s website and third party-data are different source of data that AI can deal with. When combining both online data from the company's website with historical data a company is able to create a solid AI-model. Although, only using online data is not sufficient, while it is also necessary to know what products the customer has already bought, or if they were a previous customer that have turned (Nikolaisen).

5.1.2 AI for identifying and selecting customer

The sales representatives are responsible for turning leads into customers while the responsibility of finding suspects and defining prospects is in the marketing department (Sabnis, 2013). However, leads are not only generated through the sales funnel by the marketing departments, but also from the sales representatives’ own initiative. They therefore prospect and need to assess the quality of the potential customer.
These are similar activities to the first step of the selling process mentioned by Moncrief and Marshall (2005), namely customer retention and deletion. Those two activities are identified by several respondents as relevant application areas for AI. Moncrief and Marshall (2005) explain that sales representatives need to assess the value and potential of both potential new customer and already acquired customer. Customers are typically categorized based on their profit potential and the sales team will dedicate more effort towards the one with higher potential (Lee, 2011). Moncrief and Marshall (2005) consider prospecting to provide less value than efforts related to growing the existing customer base.

The AI-features on Vainu’s and Liana’s platform offer new possibilities and tools for finding prospects. AI is taught to recognize what is relevant information and make the huge amount of online available data searchable. As a result, sales representatives are able to find the right company for their offering and, according to Jahrl and Treichl, explore new opportunities that they may not have even considered before. Sales representative are able to go beyond their traditional target market and find new type of customer. With more accurate findings and less effort and time devoted to information finding, AI increases the efficiency of the sales representatives. This is further emphasized by Treichl, who explains that sales departments that use publicly available data in a successful way are more likely to succeed with their customer acquisition process. It is evident that the usage of AI for prospecting does not replace the need for human interventions, since sales representatives still need to be aware of which company and information they look for. Jobber and Lancaster (2009) underline that prospecting activity requires the sales force to understand the value and necessity of it, which is an approach that is not considered to be altered by the implementation of AI in prospecting activities.

For assessing the quality of the leads, Elfström specifies that AI provides a real-time intelligence. By combining large data sets and real-time data, AI can provide sales representative with a list of suspects with the highest probabilities to turn into paying customers. This application area of AI is related to predictive lead scoring methods presented by Sabnis (2013). The unique feature of AI in comparison with other scoring methods can be considered to lay in its ability to combine several data sources. Also, Nikolaisen highlights that digital touchpoints from the user behavior on the company’s website reveal if a customer is ready to buy or not. The interest that a potential customer shows for a specific product is correlated with its readiness to buy. It can, therefore, be argued that AI is an efficient predictive lead scoring method and introduces the assessment of a customer readiness to buy as an important lead qualification criteria.

Sabnis et al. (2013) also mention that leads can also be communicated by marketing representative, which indicates the need for good coordination between the two departments.
Better coordination and communication between the two departments are mentioned by Malmqvist and Antikainen as a need for improvement for many companies. The two respondents argue that their AI-empowered platform can be used by both marketing and sales departments with the goal to increase the transparency and coordination. This statement is congruent with Wiersema’s findings (2013), who suggest integrating marketing and sales systems for better coordination.

Malmqvist argues that marketing representatives can identify relevant prospect for instance for an event they are going to organized, that later on will be forwarded to sales representatives. As previously mentioned, AI help companies to better understand their customer and target group, which suggest that it is also building more relevant prospect list. With more relevant prospect list that are better qualified, the risk for sales lead black hole mentioned by Biemans et al. (2010) can be considered to be minimized since the salesperson will certainly give more importance to prospects if they are more qualified.

Malmqvist and Antikainen also explain that the two departments have overlapping job activities and responsibilities, for instance lead generation, increasing brand awareness and building prospect list. Jobber and Lancaster (2009) also acknowledge the similarities between these two functions while identifying, for instance, segmenting and targeting markets as typical marketing activities. Panagopoulos and Avlonitis (2010) determine that customer segmentation and customer targeting are part of sales strategy. In this context, AI provides the sales representative with a different segmentation that they not have figured out on their own (Treichl). Thereby, with AI, the segmentation is data-driven rather than based on the sales representative assumption.

5.1.3  **AI for increased knowledge**

The need for increased knowledge is evident, while sales representatives nowadays have become knowledge agents instead of persuasion agents (Sheth & Sharma, 2008). There is also consensus among the respondents regarding the need for new competencies. The sales representatives need to have more specialized skills and in-depth knowledge in order to stay competitive and in phase with the ever-changing technology. Salespeople are also expected to focus more on building customer knowledge and knowledge about the external world in order to add value for the customer, which the process of market sensing enables (Piercy & Lane, 2009). This can be considered to be enabled by AI, since the combination of internal and external data gives salespeople an extensive knowledge of the customer and the external world (Eriksson, Treichl).
AI can, for instance, detect that all the user leave in the middle of a form, and not just a certain page, and the reason behind it (Jahrl). The usage of this online data source for monitoring a company’s customer is also acknowledged by Franks (2012). The sales representatives are thereby able to monitor existing customers and ensure that they are satisfied and keep track of what is happening by the customer, without having to manually google or call them regularly (Malmquist).

Also, the tone recognition capability of AI enables the identification of positive and negative content written on the Internet that is related to a specific customer. The seller can be informed that some of these signals are affecting the customer relationship and be proactive with addressing the issue before it is too late (Antikainen). Also, the motion on the screen can be analyzed and the information gained can thereby be used in order to better understand customers and take appropriate actions to win them back (Jahrl). This increased understanding of the customers based on the collection of a large amount of data enables more targeted content (Braverman, 2015). Also, the acquired knowledge is important for building trust and exploring new relationships with prospects (Sainis et al., 2013).

Further, turn-risk models demonstrate how the information received by AI can also be used in order to retain existing customers (Treichl). It is possible to calculate the likelihood for a customer to turn but is also possible obtain information about the top reasons behind the turn. With the help of AI, companies are able to analyze the data and thereby come up with smart actions.

Above mentioned examples prove that AI is a helpful tool in order to gain deeper customer knowledge and increased understanding of the needs and requirements of them, as well as a broad understanding of the external world. The importance of increasing the knowledge base and the requirement of competencies have affected the responsibilities of the sales person. This has resulted in a change from solely being product experts to instead becoming customer experts (Sheth & Sharma, 2008). This change has also been acknowledged by the respondents and the majority of them expect it to be even more emphasized in the future.

5.1.4 The role of AI in relationships

Creating long-lasting relationships between the seller and the customers has become a vital activity to focus on for the sales organization. The changing needs of customers require new approaches in order to maintain deeper relationships, which is an area where traditional sales have proven to be insufficient (Sheth & Sharma, 2008). This development is also acknowledged by Moncrief and Marshall (2005), who include building long-lasting relationships in the modern approach of the selling process.
Sales activities nowadays tend to cover facilitating and helping the creation of new contacts and increasing collaboration with the customers, which is something that is evidently not possible without focus on relationship building (Hunter, 2009). This has resulted in the sales representative acting more as a relationship manager instead of an order-taker, which indicates an apparent move from traditional sales role.

Developing a strengthened customer relationship has proven to increase sales by up to 50% (Stewart, 2005), which confirms that acquiring knowledge about the customers and their needs is vital for companies. The factor of knowledge in order to strengthen the relationship is further explained by McCue (2007) to be of importance, while sales organizations are required to have deep insights as well as understanding of the customers and their industries. This need can be fulfilled by the use of marketing automation (Heimbach et al., 2015). It involves the observations and analysis of digital footprints of leads, that are collected from various digital channels, which enable companies to better understand the online behavior of customers and thereby personalize the content. Digital touchpoints are also considered in an AI model (Nikolaisen) it also provides more personalized content. The benefits of AI can, therefore, be related to the one of marketing automation. However, AI also processes several data sources in addition to digital touchpoints.

The long-term and beneficial relationship is characterized by a high level of trust (Akrout & Diallo, 2017), commitment and satisfaction (Wilson, 1995). The reason for its importance is the need to better understand the customer in order to better meet the need of the customer and create better service and offerings (Weitz & Bradford, 1999), which is enabled by AI. The rapid development of information technology has proven to be beneficial for companies by enabling better communication within the sales force and also in the buyer-seller relationship (Cardinali, 2014). While trust and commitment can be increased with better communication (Mohr & Nevin, 1990), AI is evidently an efficient tool and brings along many benefits in regard to modality, frequency, one-way communication and content. It ensures that relevant content is shown, it knows when it is the best time to send mail, how often, and also what communication channel that the customer prefer.

For instance, with the help of AI, it is possible to investigate the response to message content and present personalized content in accordance with what the customers values the most (Eriksson). An AI-engine is also able to identify if a customer prefers positive or negative content. Also, specific and accurate content can be shown to the customer based on where in the selling process the potential customer currently is, through the use of AI (Rengby). It has the ability to determine what kind of content should be displayed in order to convert the visitor into paying customer and also reduce the bounce rate. This way, the company spares the visitor the need to look through the whole website (Nikolaisen).
The benefits that personalized digital communication bring along are evidently a stronger relationship with the customer and increased customer satisfaction (Heimbach et al., 2015).

Although, while AI is limited to narrow domains, it is insufficient in regard to two-way communications (Eriksson). This is further emphasized considering the fact the majority of the respondents express that regardless of if a chatbot would perform as well as a human, it will still not come close to a human sales representative. B2B customers that usually make larger purchases would lose their trust and interest if they were to only interact with a machine and not a human since they still appreciate face-to-face interaction (Rengby). Even if a chatbot would perform as well as humans, the buyers would consider themselves as proper customers if they would talk to a human instead. However, Elfström expects chatbots to continue to be of importance in regard to be an interface that enables a conversation with humans. The chatbot lacks the selling experience and interaction of a human sales representative that increase trust among the customers. This proves that the sales representatives still have a crucial role regarding two-way communication, while the customers appreciate the human interaction, despite the emerging role of AI.

Further, the last step of the selling process is about maintaining customer relationship (Moncrief & Marshall, 2004), which emphasizes the importance of retaining the relationship with the customer even after the transaction being completed. The focus on minimizing the interaction with the customers and keeping it relevant to them is thereby of importance, in order to retain the existing customers (Jahrl). This is possible through the use of AI.

### 5.1.5 The role of AI in consultative selling

Consultative selling is defined as a problem-solving approach to sales activities (Cuevas, 2018) and is also included as a step in the selling process (Moncrief & Marshall, 2005). It is explained by the authors that the sales representatives are required to meet the needs of the customers and adapt the solution to these needs rather than only selling a product. With the right technology, it is possible to convert data into useful information and thereby meet the need of the customers (Clar et al., 2007). This modern approach to selling is acknowledged by Nikolaisen and Elfström, who identify the sales representative as consultants instead of sellers. Elfström considers that the role of the seller is shifting towards a total interaction consultant with a comprehensive view of the customer.

The sales interactions are complex in consultative selling, while several individuals are involved in the selling process in addition to the sales representatives. This complexity is further emphasized by (Sheth & Sharma, 2008) who have identified a shift of focus, from the individual salesman to the entire selling organization.
Rackham and Devincentis (1999) mention that the product complexity in consultative selling highlights the need for a more deeply diagnosis of the customer problem instead of relying on one-way communication for value creation. Therefore, the sales force is required to shift from being value communicator to value creator, which can be facilitated by the usage of analytical tools. With the usage of AI, the content can be personalized, and it facilitates even more the process of information gathering for the customers (Rengby, Nikolaisen). Instead of providing information and communicating value to the customer, the majority of the interviewees agree that the sales representatives are expected to dedicate more effort on complex and highly valuable sales. In the context of complex and highly valuable sales, sales representatives are expected to still be required in the future (Nikolaisen). Also, for purchase that involve many users and a more complex offering, a sales representative is strongly needed for educating and acting as a consultant (Malmqvist)

In consultative selling, value is mainly created by the sales representative early in the customer buying process, by helping customers defining needs and solutions. However, with the advancement of digitalization, buyers usually go through a main part of the selling process before engaging with the selling company (Lee, 2011). Nikolaisen mentions that the preferences of the customers are driving the development, while all the buying process may be taking place online if the customer prefers.

The final step in the buying process is implementation (Rackham & Devincentis, 1999) . The sales representatives advise the customer on the product usage and help solve implementation issues. Activities such as implementation, service and education can probably be digitized in the future, according to Nikolaisen. Malmqvist believes that the role of sale representatives in this last step of the buying process to become even more important while focusing on educating.

Although, Cuevas (2018) mentions that transactional selling is to some extent still relevant in today's environment. In this product-focused approach, the sales interactions are rare and simple. Rackham and Devincentis (1999) mention that the sales representatives only have the possibility to create value at the time the customer is actually buying a product by making the purchase effortless. Two respondents agree on saying that for less complex buying, AI-driven chatbots or online service on the company’s webpage are expected to take on the role of the sales representative. The decreasing need for sales representatives in transaction sales is emphasized by Malmqvist, who identifies the role of sales representatives as educating the customer rather than only closing the sale. According to four respondents the size and relative importance of the investment are the factors that determine the need for a sales representative.
Chatbots can replace the role of information provider, while face to face conversations are needed for more complex purchases. Also, the content on the website can be personalized through the usage of AI, which present relevant information to the customer.

5.1.6 Human-machine collaboration

While value adding activities and the quality of the relationship are impacted by the use of AI, it is also highly relevant to consider how machines and sales representative complement each other. According to Wirth (2018) neither “AI Super Intelligence” nor “Strong AI” is of relevance today, only “weak AI. This proves that the question of if the machines will entirely take over the humans is not an accurate question today nor in the nearest future. This indicates the continuous need for humans and machines to cooperate.

The machine (AI) is able to recognize patterns among a large set of data and, thereby, automating the analytical process, which can be related to Sivarajah’s (2017) theory about descriptive analytics. Further, the respondents explained that by analyzing the user behavior on the website and combining it with historical data, AI can provide the sales representatives with next best actions based on evidence from data. Even if data provides evidence, the intuition and creativity of the sales representatives are still required in decision making (Jahrl). It is argued that the sales representative is expected to be responsible for making the last sales-decisions, even when AI is implemented in the sales process. AI is, therefore, seen as decisions support, but humans are still making the final decision towards the customer. For instance, the decision of which customer to contact or when to contact them is always going to be done by humans, according to these respondents.

Also, all respondents are certain that AI removes boring monotonous activities, which thereby enables the employees to focus on more valuable and fun activities, but most importantly their core tasks. The activities related to the sales function often includes tasks that are considered to be non-sales activities (Jobber & Lancaster, 2009), but with the help of AI, humans do not need to handle them in the same extent as before.

The aspect of intelligence does not mainly refer to human intelligence, but rather to also being able to solve complex problems though advance computing (McCarthy, 2007). This indicates the need of the human-machine collaboration, but also strengthens the claim that machines will not entirely replace humans. The symbiosis between the two is needed in regard to complex decision making in order to enable a more efficient outcome of intellectual operations. The need of both the technology and humans is expressed by all the respondents. Erikson explains that while AI is able to work with a large amount of data and thereby analyze and see patterns that a human cannot see, the role of the machine is evidently of importance.
Although, it will not replace the humans, while humans are able to be creative, dream and thereby create new things, which are capabilities that a machine do not have. This is further emphasized by Jahrl, who claims that human-machine collaboration enables the humans to focus on what they are actually good at and, thereby, perform more valuable tasks. Humans can for instance be influenced by emotions, which also can affect their human judgement (Daugherty and Wilson 2018). Machines do not experience this kind of constraints and are, therefore, more relevant in regard to rational decision-making.

One of the benefits of AI the ability to strengthen the human skills and increase the productivity through the human-machine cooperation (Daugherty & Wilson, 2018). This statement is further strengthened by Isaacson (2014), that further claims that AI has a role in augmenting humans, by supplementing and intensifying their capabilities, and will only replace humans through automation. On the contrary, Hunter and Perreault (2009) claims that the objective AI is not intended to only automate the traditional tasks that already exists, but rather to create new tasks. The sales technologies are thereby not limited to automation, while they have the ability to make the salespeople more efficient through adding additional capabilities to the sales representatives.

All the respondents agree that AI, for many years to come, is more about providing people with capabilities that are smart and that allow them to perform better. The human aspect in sales meetings is still expected to be strongly appreciated in many years to come, but also in the context of personal selling and relationship building. This emphasizes the statement that the need for manual intervention today will probably remain in the nearest future (Nikolaisen).

5.2 People in the process of change

According to Gardner and Ash (2003), technology increases the complexity of change management and introduces new challenges related to its adoption and understanding, which are the two main challenges associated with AI that the majority of the respondents identified. Heichl refers to the difficulty of the topic while Jahrl reveals that the understanding is influenced by the digital maturity of the company and the generation. This is also mentioned by Rengby and Nikolaisen, who claim that many customers have a high interest in AI despite the lack of knowledge and understanding regarding the application of AI in their company. On the contrary, Vainu’s customers typically do not have nor the understanding or the interest but are more interested in the outcome of AI. The understanding for the benefits of the technology is lacking among many organizations today, and customers are more interested in being informed on the results of AI instead of the technique itself.
For the companies in the process of implementing AI, it is therefore not valuable to gain an understanding of technology enabling AI. This is even more important considering the several definitions of intelligence, approaches and involved techniques of AI (McCarthy, 2007).

In the change management process, the first step is to identify the need for change (Hayes, 2014). Both internal and external drivers can be identified by companies. Rengby mentions that high interest in AI results in higher pressure for adopting the technology and fear of missing out, which can be classified as an external technological factor. The other respondents rather mention internal drivers as main drivers for change. The need for change should be grounded in a business problem that need to be solved and, therefore, only considering external driver without reflecting on its use in the business process can decrease the value of the investment. The focus should be on what the company want to achieve with the technology instead of on the technology itself (Antikainen). It is also expressed by Eriksson and Antikainen that the sales departments are always having a vital role in the implementation process, which confirms what Hayes (2014) declares concerning the involvement of sales team in order to better understand the change.

When the need for change is defined, it is vital to ensure a willingness to change in the company (Hayes, 2014), more specifically change in working procedures when the change is AI-related (Holtel, 2016). Treichl and Malmqvist also acknowledge the change in working methods and recognize the willingness to learn and change work procedures and behavior to be important. Also, re-thinking approaches and experiences are mentioned by Jahrl as important skills to have in the company. This is in accordance with Kolbjørnsrud et al. (2016) who mention the need for a diverse workforce with different and complementing experience.

The individuals also need to understand the change and accept its implications (Jones et al., 2005). Within the context of the implementation of AI in sales, it is mentioned by four respondents that the technical specifications of AI should not be communicated during the change process. The focus should rather be on the understanding of the implications for the execution of the sales representatives’ daily tasks.

According to Pugh (1993), the willingness to change will be higher when the individuals are successful and also facing some challenges in the execution of their activities. It is, therefore, important to communicate that AI results in saving time and the execution of more valuable tasks rather than only communicating automation as benefit. It should be noted that even though no technical understanding of AI is needed, the sales representatives need to understand that data is important (Treichl) and a data driven approach should be promoted (Malmqvist).
In order to better understand the system and its implication, all the respondents emphasize the importance of educating the sales representatives. Malmqvist explains that their customers are educated in the usage of the system, while IBM educates a group of employees, that are responsible for training their colleagues.

It is mentioned by Treichl that the end-users of the system should not only understand the implications, but also understand why they should trust the system. Trusting the system is also identified by Siau and Wang (2018) as an influencing factor for the willingness to adopt the technology, both on the short and long term.

By creating a positive perception of AI, trust in AI is created (Siau & Wang, 2018). It is important for the individuals that are impacted by the change to have a positive attitude towards the change and do not perceive the change as personally harmful (Jones et al., 2005). On the longer term, trust is increased by an easy usage and understanding for collaboration with humans. The easy-to-use interface is acknowledged by Malmqvist and Jahrl, while it is explained that it assures an active usage of the system. Nikolaisen also mentions the importance of creating a living system that is actively used in the company.
6. Conclusion

6.1 Research questions

What benefits do AI and Big Data bring to the selling process?

The selling process is considered to be never-ending. Considering the increasing usage of digital channels, it does not have a clear start or end. The boundaries between the several steps are blurred while data is providing value into each step through the usage of AI. The creation of real-time information and adapting capability of AI enable the sales representatives to perform faster and more proactive.

The benefits that AI brings in regard to customer retention and deletion is mainly about facilitating the process of prospecting by making it more efficient and less time consuming. Through the use of AI, a company can easily identify the most relevant customers and thereby choosing the most profitable ones. It requires less time and enables better quality of the leads by using readiness to buy and interest of the customers as lead qualification criteria, but also by combining different data sources. As a result of the improved quality of both marketing and sales generated leads, there is lower risk for the sales representatives to discard marketing generated leads.

Figure 6 - The benefits of AI in the selling process
Regarding database and knowledge management, AI is beneficial in several areas. Companies are able to automate the process of information gathering, which is time saving and provides the sales organization with insight from a larger amount of data, which would not be possible without the use of AI.

Further, AI facilitates and enhances relationship management by improving the buyer-seller relationship. It simplifies the process of creating and maintaining long lasting relationships with the customers by enabling specific, accurate and valuable content. The content can be personalized and adjusted in accordance with the preferences of the customer. The use of AI facilitates the communication in regard to the modality, frequency, one-way communication and content. The personalized content, as a result of the use of AI, also offers new possibilities for the sales representatives in the selling step related to marketing the product. More relevant products that matches the interest and preference of the customer are shown on the website. This results in the customer having to spend less time on finding information, which, along with the other aspects, improves the entire customer experience.

Instead of solely selling a product, AI enables the sales representative to identify the customers problem and, thereby, is able to sell in the required product that accommodates their needs. By acting proactively with predictive and prescriptive insights, the sales representative is able to constantly meet the changing needs of the customer through performing value adding activities. AI enables the sales representative to predict the future needs of the customers in order to constantly satisfy their needs and, thereby, creating value for them. The maintenance of the customer relationship can be facilitated by the turn-risk model that AI is creating. The model provides sales representatives with the likelihood for a customer to turn and the reasons behind it while also generating smart actions. They are, thereby, informed on the activities to be performed in order to re-acquire the customers. By providing the customer only with relevant content, AI minimizes the interaction with the customers to the extent that is considered valuable for the customer.

**How does the usage of AI influence the performed sales activities and need for human sales representatives?**

The modern approach to the role of the sales representative is consultative and is expected to remain consultative with the usage of AI. The usage of AI enables the sales representatives to be better informed and to take on the role of the customer experts instead of product experts. This enables them to focus on solving the problems and meeting the needs of the customers. The consultative seller is required to gain a comprehensive understanding of the customer, and AI is seen as an assistant providing with deep insight about the customers and
their needs. The performed activities in this role are increasingly shifting towards providing value at the end of the buying process, by educating the customer on the product, supporting the implementation and creating long-lasting relationship.

AI can communicate value through personalized content on the website, while the value adding activities are still the responsibilities of the humans. In the relationship building, AI facilitates the communication, but is not considered to replace the need for humans. While AI is surpassing humans in the analysis of patterns as well as understanding of preferences and behaviors, humans are required for their capability to understand other humans during interactions. Even if the technology is evolving towards this capability, the human aspect in relationships is still expected to be strongly important. For more complex and valuable sales, the need for the consultative role is emphasized, while smaller sales in transactional selling can be replaced by the several benefits provided by AI, namely the creation of personalized content and the ability to provide basic product information.

The sales representative and the machine (AI) have different function in the selling process. In some aspects humans are outperforming machines and vice versa. The strengths of the humans lay in its ability to generalize, as well as in their intuition, and creativity. AI, on the other hand, is able to work with a large amount of data and thereby identify patterns that a human cannot see. This analytical capability provides the sales representative with better information for decision making, but it does not replace the need for humans. The decision of which customer to contact is always going to be done by humans. Humans are also needed in customer interactions. Administrative tasks and non-sales activities can become automated through the use of AI. This results in sales representatives being able to focus on their core tasks, for instance relationship building, and perform more value-adding activities.

**In the context of AI implementation, how should the sales representatives be managed, in order to create a willingness to change their working procedures?**

With the development of third-party developed AI-models, more and more organizations have easy access to AI-solutions and this study reveals the variety in the benefits that such models can provide. Those AI solutions reduce the need for technical expertise related to the development of the models, and instead increase the focus on the business processes and the end-users of the system. The companies should from the start of the change process understand what they want to achieve with AI and, therefore, adopt a business approach instead of a technical one.
By having the business in mind already in the beginning of the change process, it is easier to communicate to the sales representatives the benefits of and implications for their performed tasks.

The communication should be centered on the understanding of AI, its implications and trust building in order to increase the willingness to change working procedures. Thereby, also adopting the technology at the individual level, that is the sales representatives. The threat of automation and elimination of jobs should be reformulated into the possibility to augment human capabilities in order to create a positive perception of the technology. An easy to use interface requiring no deep technical understanding of AI and a good understanding for the human-machine collaboration are considered to increase trust in the long-term. As a result, the willingness to adapt the system is higher. Finally, a data-driven culture and willingness to change work processes should be promoted and taught in sales organizations in order to ensure the systematic usage of the system.

### 6.2 Managerial and theoretical contributions

The aim of the study has been to create a comprehensive understanding for the benefits and individual impacts of AI in sales organizations. A general extended understanding of technology such as AI is of empirical relevance for both individuals and the society as a whole. At the same time, the hope is that companies will acknowledge the importance of individuals during and after the implementation of AI. By considering these aspects, companies will hopefully avoid costly investments that do not reach their full potential. Also, by providing sales representatives with the practical implications of the implementation of AI, higher interest for the usage of AI and Big Data in B2B companies will certainly arise. Thereby, contributing to the advancement of the technology.

From a theoretical point of view, this study has contributed to the field of sales research by clarifying how the sales representatives are impacted by new technologies and the responsibilities that are altered or added as a result of technical development. The selling process is constantly impacted by new technologies. This study has introduced the benefits of AI in this context; however, the technology is expected to be further developed in the coming years. For future researchers in the field of sales, this study indicates that new and complex technologies should not only be seen from a technical perspective. They also have consequences on the view of knowledge and professions in the society. Considering that AI is developing so fast, this study also provides an up to date academic research that is consistent with the current state of the art.


6.3 Suggestions for further research

Research on AI and Big Data and their impact on specific occupational roles in B2B companies is fairly limited, leaving room for further research related to other roles than the general sales representative. While this study provides with a more generalized picture of the sales representatives and their role, it may also be relevant to study other various sales roles, or tasks in several roles at the same time, since it is assumed to be a more likely scenario for a company's implementation of AI and Big Data. In order to be able to draw more definite conclusions about AI and Big Data's impact in a business context, we as the authors of this study, consider that case studies can be done on companies that have already implemented AI-solutions. This methodology enables the identification of challenges and opportunities that companies and employees encounter in the implementation, in order to further analyze how these should be managed in a more informed and nuanced manner.

Finally, it may be of interest to test the conclusions that have emerged in this study with a quantitative method. Thus, the generalizability of the conclusions presented may possibly be strengthened.
References


**Interview guide**

1. Tell us more about the service that you provide

2. Usage of AI and Big Data in your solutions:

   **Big Data**
   - How is Big Data processed in your AI solution?
   - How do you collect the data and what type of data is analyzed?

   **AI**
   - What main benefits does AI bring in your offering?
   - What main benefits do AI and Big Data bring to marketing and sales:
     - For new and potential customers
     - For already acquired customer
     - For increasing sales (upselling, crosselling)
     - Internal vs external (customer) benefits

3. Understanding for AI
   - How does the understanding of AI look among your customers?
   - Which actors/customers are usually driving, or skeptical?
   - Do you notice more hesitation from B2B firms, compared with B2C firms?
   - How do you persuade your customers?
   - Why do you believe that that many B2B organizations hesitate to implement AI in their organizations? (studies have shown that B2B hesitate more)

4. Could you describe how the implementation takes place in three phases?

   **Before making a purchase decision - what considerations are made?**

   **During the implementation**
   - Who/what business functions are involved?
   - Which factors/steps are crucial in order to succeed?
   - What is the required culture, competencies and organizational structure?

   **After the implementation**
   - How is the organization affected?
   - How does the performed sales activities change?
• Does the role and activities of the seller change?
  ○ Customer acquisition
  ○ Customer retention
  ○ Non-sales activities

• Can AI create new job tasks and activities? If yes, which one and why?
• Do you see your product as an automation tool or support tool or both? Why?
• How is the need for competence affected in the sales areas?
• Are specific competencies required for the salesperson to use your product/AI? If yes, which one?
• How do you ensure that the customer’s sales organization have these required competencies?
• How do you think that the communication between the human sales representatives and the customer is affected by the implementation of AI?

Are there areas that are not suitable for AI-solutions? If yes, which one and why?
Are there areas that are suitable for AI-solutions? If yes, which one and why?

5. How do you look at sales and AI in the future?