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CUSTOMER INTELLIGENCE PRACTICES IN DYNAMIC FIRMS: CAPTURING VALUE FROM THE CRM ECOSYSTEM

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LIST OF FIGURES AND TABLES

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ABSTRACT

Customer relationship management (CRM) platforms have recently overtaken database management systems to be the largest of all software markets in terms of yearly revenue. However, despite its increasing prominence as a source for customer intelligence, the nature of its effect on value creation in decision-making terms is not that well researched. This thesis addresses this gap particularly from a managerial point of view.

The study opens with an extensive literature review, where two pillars of dynamic capabilities – sensemaking and absorbtive capacities (ACAP) – forms the theoretical backbone. Through the discussions the thesis establishes a linkage between BI literature from a CRM angle with the more classical resource-based view of the firm.

As a qualitative multiple case study ten case companies are investigated for this research. The cases are divided into two clusters for structural clarity and CRM influences on both are documented separately. Afterwards the results are aggregated for a holistic picture about CRM driven decision-making.

The results identify the ways in which CRM tools are helping managers to maintain an organizational homogeneity by facilitating employee collaboration, how it guides through the customer negotiation phase, as well as how it allows firms to react fast and comprehensively with customer woes. The thesis also identified challenges associated with CRM integrational issues, motivational factors inhibiting CRM adoption, and suggests ways CRM can be better utilized for businesses of different scopes.

KEYWORDS: customer relationship management (CRM), business intelligence (BI), customer intelligence, dynamic capabilities, sensemaking, absorbtive capacities (ACAP)

1. INTRODUCTION

Living in the age of big data, the business world, too, is seeing the rising prominence of this phenomenon in its midst. So many new avenues to collect data that were unthinkable even a decade or two ago have burst into the picture now, furthermore, affordable computing power to analyze and extract value from this large unstructured pile of data is furthering the business case for business intelligence. However, this is only the beginning of the story since intelligence is so much more than just collection and analysis of data. Intelligence is to know what the competitors will not find out. It is having deep insight on the market and on the competition. (Mayocotte, 2014)

Although, the term business intelligence is relatively new, clever use of information in the business context is not. An early example of business intelligence can be found in Nathan Rotschild's timely knowledge and subsequent action in London Stock Exchange, propelled by the swift delivery of news on the outcome of the Battle of Waterloo (Skyrius, 2016). Though much has changed the way in which intelligence operations are run, its core is still formed by activities leading to the gathering and sharing of information. This information helps to answer two fundamental business questions: how am I doing? And, where am I headed?

In 2011, Mckinsey institute predicted that big data will be the new frontier for innovation, competition, and growth, and that the leaders of every managerial section would have to grapple its implications (Manyika et al. 2011). Generated from a plurality of sources, the impact of big data and business intelligence can be traced most noticeably on industries including (but, not limited to)- genomics, health care, engineering, operations management, the industrial internet, and finances (Gerry, Haas, & Pentland, 2014).

Business intelligence has the potential to provide decision support to virtually every function of an organization (Gert & Laursen, 2011). To better focus on the impact of BI, its' impact

on customer centric operations will be the focus area of this thesis. Kelly (2005) defined customer intelligence as the knowledge that an organization has concerning the likely future intentions of its customers- present or prospective.

Customer intelligence, much like BI, is more than having the right technology; for a successful customer intelligence platform, it is about organizations finding their way to extracting value from the huge stores of data they acquire and about identifying the information they actually need (Kelly, 2005). While the sources for information collection are ever-growing, particularly due to the internet of things (IOT), businesses need to be clear on the sources to collect the customer data from, and on what to measure, and how to interpret them.

That makes it more important to choose correctly the knowledge creation strategy, in particular- relating to the customers. Tseng & Wu (2009) defied customer knowledge as an enterprise's understanding of its current and future customer's needs and preferences. This knowledge helps businesses enhance customer satisfaction, solidify customer loyalty, and empowers concerned employees while also enabling firms to sense changes in the market and helping in the innovation process (Tseng & Wu, 2009). Therefore, integrating customer knowledge across the business process by the gathering, managing, and sharing of this resource can be a valuable competitive activity for firms (Khodakarami & Chan, 2014; Tseng & Wu, 2007). Customer intelligence platforms help businesses develop these activities; in particular the cloud enabled customer relationship management (CRM) tools have emerged as a great source of customer knowledge in this regard (Partanen et al. 2017). Plakoyiannakii (2005) has defined CRM as strategic, customer-centric, and IT-enabled approach that aims to build, manage, and retain long-term profitable customer relationships.

Companies are increasingly moving towards data driven business operations and this thesis investigates the nature and the scope of CRM generated intelligence in the managerial decision-making process. With this theme, the researcher hopes to learn more on areas such

as IT-enabled managerial decision making, customer analytics, and quantitative consumer behavior.

In this context, this thesis aims to contribute to the growing body of research on the analytical decision making, especially on a customer intelligence context

1.1 Background of the study

Recognized as a strategic initiative among leading businesses, customer intelligence is the process of capturing, organizing, and analyzing key information about customers or potential customers to gain competitive insight into their behavior (Burdette, 2002). As Mayocotte (2014) observed, information which can be easily absorbed form the environment is not intelligence, but it is knowing something that others cannot easily figure out. In this respect, the technological aspects of gathering customer intelligence, although important, is not the end game of intelligence activities, and big data is a means (among others) that serves as a channel for garnering customer insight.

The value captured from business intelligence has a large body of research, but, customer intelligence as one of its subsets offers a lot of room for exploration. In particular, the micro effects of customer intelligence in the day-to-day decision-making is not very well researched. With better customer insights businesses can improve segmentation, acquisition, and retention of customers, which in turn translates to an increased customer lifetime value (Williams et al. 2003). This CRM enabled process of collecting and translating data into knowledge and turning that knowledge into actionable insight offers an opportunity for research.

This research investigates the impact of CRM tools generated customer intelligence on decision making by looking into the process of translating the derived knowledge into

actions; and how this process contributes to the sensemaking and absorptive capacities of the firm.

1.2 Research context and research gap

A relevant antecedent for this research is Pirttimäki's (2007) doctoral dissertation on the impact of BI in large Finnish companies. Studied in a managerial decision-making context, Pirttimäki (2007) observed that driving force behind several companies adopting BI came as an increased need for obtaining knowledge about the business environment and its development to aid in their strategic and operational planning and decision-making. Also, very importantly, the most significant benefits obtained from BI were- enhanced quality of information, internal information dissemination, and increased level of environmental awareness. Although the premise and the findings of this dissertation will serve as a counsel to the researcher, the current research shall look into BI from a dynamic capability perspective. Whereas Pirttimäki (2007) has concentrated more on the role of BI as a means for managing business information and its integration into the strategic management process, this study will investigate customer relationship management as a subset of BI and its effect on the dynamic capabilities of a firm.

Dynamic capabilities are closely related to firm's resource utilization, especially with processes that integrate, reconfigure, and gain and release resources to instigate market change (Eisenhardt & Martin, 2000). It is also embedded in organizational and strategic routines through which firms attain new resource configuration as markets are constantly emerging, colliding, splitting, evolving, and dying (Eisenhardt & Martin, 2000; Moustaghfir, 2008). Customer intelligence supplies knowledge that can act as resources complementing to these routines. Especially when we draw from the Helfat & Raubitschek (2000) model of knowledge acting as a resource that supports capabilities, activities, and products of a firm.

With the inception of data driven decision-making, firms across industries are using customer intelligence systems to create leverage in the marketplace. From retail to telecommunications, manufacturing to health care, or utilities to transportation to financial services- data mining is finding its way to become an essential business operation (Linoff & Berry, 2011). It is no surprise, then, that the definition of customer intelligence has evolved to focus on the data-propelled management of customer services, while also increasing the efficiency of marketing, sales, product design, and inventory control. A large chunk of customer intelligence research that relates to business value creation can be found along these lines- how analytics driven operations are reducing the overall cost the business functions, creating a close loop marketing or generating appropriate leads (Burdette, 2002; Linoff & Berry, 2011).

However, the depth of such customer intelligence operations goes far beyond the day to day operational efficiency. Much like BI, it casts a long shadow over strategic decision-making. Customer intelligence helps develop knowledge assets pertaining to strategic customer insight, which enhances the ability to sense and seize new opportunities. It also requires the firm to properly absorb new information and smoothly integrate it into the business process. Both of which, are essential dynamic capabilities.

A successful customer intelligence strategy is a mixture of human intervention with the big data, since it is the responsibility of the human element to turn insights into effective action. Haapaniemi (2017) suggests that extracting actionable insights out of the customer data remains a big challenge and companies are continuously working towards greater efficiency and precision in this regard. Also, at a macro level, developing a successful customer intelligence strategy is not merely a matter of implementing latest information technology solutions, as it requires deep strategic foresight, while the changes brought along by a customer intelligence system needs to be aligned with companies' long-term goals (Partanen et al. 2017). Furthermore, customer intelligence cannot shed light on all aspects of the customer dimensions- it can tell who the customers are, when and where they are buying, it can even predict when will they buy next, but it tells very little into why they are doing it.

Human discernment is invaluable here. As one manager explains: g*enerally there is too much data available but slicing it, dicing it, and transforming raw data into precise, direction-oriented knowledge that powers corporate strategy is not a simple task* (Haapaniemi, 2017). A window is visible here to investigate the decision-making features of customer intelligence platforms as well as the managerial process of extracting value out of it in dynamic firms.

1.3 Research question and objectives

Research Intent

Dynamic capabilities shape and methodically reconfigure organizational competencies by integrating new knowledge by the means of linking, organizing, and integrating the generated knowledge into organizational routines; furthermore, the effectiveness in which this knowledge is integrated in the organization's system decides a lot of the value that can be achieved out of it (Moustaghfir, 2008). It is important to mention that 'knowledge' in this case is seen as the accumulated intellectual resources of an organization and its human capital in the form of *information, ideas, learning, understanding, memory, insights, cognitive, and technical skills, and capabilities* (Baldrige, 2003).

CRM as a customer intelligence provider has the potential to enhance the competitive advantage of the firm by adding to the knowledge base of a firm. This thesis intends to research how value is created through customer intelligence in terms of dynamic organizational capabilities.

With that in mind, the researcher will investigate the value generated from customer intelligence in a two-fold way. Firstly, it will investigate how customer intelligence, gathered through CRM processes and systems, is complementing the dynamic capabilities of the firm, by specially influencing the sensemaking and absorptive capacities of the organization.

Secondly, the thesis will move its attention to how this enhanced knowledge base is being used in organizational decision-making.

This is an interesting research matter, because, while we already know that an efficient CRM system can gather, analyze, and facilitate operational and strategic decision making (Partanen et al. 2017), thus adding to the organizational knowledge base, the nature of its effect on the organization's dynamic capabilities is still an evolving discourse. While considering the entirety of dynamic capabilities merits a broader research, this work shall narrow its focus to two pivotal aspects of this concept- sensemaking and absorptive capacities.

On the other hand, the thesis shall also focus on the impact that customer intelligence delivered knowledge has on the managerial decision-making process. As part of BI, customer intelligence possess knowledge on customers, competitors, environment, operations, and organizational processes having an influence on the manager's decision-making process (Seify, 2010). The researcher will try to understand this process in depth. Explain how you plan to fill the gap.

Study objectives and research question

The main objective of this research is to understand the impact of customer intelligence on managerial decision making through observing how firms are influenced through customer intelligence in terms of its sensemaking and absorptive capacities, both of which are essential for achieving dynamic capabilities. From the numerous ways of collecting customer data and various frameworks available that turn such data into knowledge, this thesis will consider customer data gathered through CRM tools as it leads to customer intelligence.

The main research question of this study can be expressed with the following research question:

RQ: *How the customer data collected through the CRM tools is transformed into organizational capability and systematically used for managerial decision-making?*

While, the research question will be answered by answering the following two research objectives:

RO 1: How customer intelligence is affecting the decision-making capabilities of the firm by complementing its sensemaking and absorptive capacities?

RO 2: How the CRM derived customer knowledge is used for managerial decision-making?

1.4 Delimitations of the study

From a theoretical standpoint, customer intelligence can be seen as a tool expanding the sensemaking capabilities while also enhancing the absorptive capacities of an organization. Customers are at the heart of businesses and generating customer insight is at the core of value creation activities. However, customer intelligence is bigger than only customer insights, as it helps firms gather an array of relevant information, such as market or competitor information. While the primary focus of this thesis will be to study the value garnered by information captured through the various CRM tools, these 'new sources' at times can come from the greater business intelligence apparatus as well. It can also come from ERP (enterprise resource planning), SCM (supply chain management), or HRM (human resource management) systems (Delen, 2014). These non-CRM sources can have customer related data to share, that goes in the collection and analysis of customer intelligence. Therefore, it might be beneficial for the thesis to take a liberal approach in not to weed out insights coming from non-CRM systems, if they are helping the managerial understanding of customer related business processes.

Furthermore, the objective of this research is to shed light on the value generating process through knowledge resources and the present thesis has assumed that the value generation

processes from new sources of information is a dynamic capability on the part of the firm. However, this study will keep the discussion confined to two important aspects of dynamic capability: sensemaking and absorptive capacity (ACAP).

1.5 Definitions of key concepts

According to Ranjan (2009) the BI has two core meanings linked to the use of the term intelligence. The primary one, and, also the less commonly used is the human intelligence capability applied to business activities. However, he further elaborates that there is an emerging term, *Intelligence of Business,* which refers to study of human cognitive facilities and artificial intelligence technologies facilitating management and decision support in business matters.

The second, however, is related to intelligence as information appreciated for its currency and relevance. Ranjan (2009) continues, intelligence is expert information, knowledge and technologies facilitating efficient management of the organization. Therefore, in this sense, business intelligence becomes an amalgam of applications and technologies that helps enterprise users make better decisions by gathering, providing access to, and analyzing data. BI from this point of view is an umbrella term for *having a comprehensive knowledge of all the factors affecting a business; factors such as the customers, competitors, business partners, economic environment, and internal operations to make quality business decisions* (Ranjan, 2009: 60).

As we can see, customer knowledge and market knowledge are integral part of any BI system, this research will focus on this aspect for better research clarity. This is also pertinent, since a continued demand for a seamless and positive customer experience, decision management systems are at the core of BI system (Khatibloo, 2013). Douglas (2016) identified customer intelligence *as a way of producing insight into customers that is both smart and useful, i.e. when it tells the decision makers not just who, what, when, and where, but also why.* It is

having the insight of why customers behave a certain way, allowing companies to adapt to the customer needs.

According to Khatibloo (2013), a customer intelligence system incorporates inbound and outbound channels, digital as well as traditional media, and also batch and real-time processes, while also using machine learning abilities to foster scale and agility. In this regard customer relationship management (CRM) technology options emerges as an eminent source of customer intelligence with its capability to link customer related front office functions (e.g. sales, marketing, or customer service) with back office functionalities (e.g. financial, operational, or logistics) with the firm's customer touch points (Chen & Popovich, 2003). Kulpa (2017), on the other hand defined CRM as the amalgam of all the *activities, strategies, and technologies* that a company use managing their current or potential customers. Furthermore, CRM at its core is about creating a simple interface for collecting customer data *that helps businesses recognize and communicate with customers in a scalable way* (Kulpa, 2017).

Dynamic capabilities originate from the resource-based view (RBV) of the firm. It is defined as a firm's routines and processes that utilizes resources and especially the ones that *integrates, reconfigures, gains and releases* resources to match or even instigate market change. Moreover, with such capabilities integrated in the organizational processes as strategic routines, firms achieve better resource configuration as markets *emerge, collide, split, evolve, and die*. (Eisenhardt & Martin, 2000: 1107)

Sensemaking is concerned with *the reduction of uncertainty and equivocality through the deliberate effort to understand the organization*; uncertainty here refers to lack of information, insufficient understanding, and not having sufficiently differentiated alternatives while equivocality on the other hand is having too many meanings clouding the judgement process (Smerek, 2011: 85). Klein et al. (2006) commented that although the demarcations of sensemaking is not clear all the time, it has become an umbrella term for

efforts at building intelligent system that allows organizations to better understand its environment and the surrounding.

Absorptive capacity (or, ACAP) is defined by Mowery et al. (1995) as a wide set of skills required to tackle the tacit component of transferred knowledge and the necessity to adjust this acquired knowledge. Kim (1997) on the other hand defined ACAP as the organization's capacity to learn and solve problems. Based on the above definitions, Zahra & George (2002: 185) have defined ACAP *as a set of organizational routines and processes by which firms acquire, assimilate, transform, and exploit knowledge to produce dynamic organizational capability*.

2. LITERATURE REVIEW

2.1 Business intelligence: what is it?

Business intelligence is a good place to start the literature review as it will pave the way for a richer discourse in the forthcoming customer intelligence discussions. Furthermore, as alluded in the introductory chapters, customer intelligence can trace its conceptual and technological roots in BI.

The principle function of BI is to help identify causes and reasons for certain occurrences allowing businesses to predict, calculate, and analyse the needed knowledge from large datasets, and, that this knowledge should be helpful making timely decisions (Kursan et al. 2010). While the meaning of 'intelligence' in this context is understood as the ability to make informed and timely decisions (Petrini & Pozzebon, 2004); Simons (1960) posited that the intelligence phase in decision making scans the environment for conditions calling for decisions. Adding to that we can look into Davis's (1974) observation, that in this decision-making phase raw data is attained, processed, and examined for clues that may recognize problems. Thus, with the aid of BI, we have a three-step journey from BI to performance: (a) data to insight, (b) insight to decision, and (c) decision to value (Sharma et al. 2014).

In the academic literature, the discussion of BI follows a twofold narrative. Firstly, it can refer to the various technological solutions, including the software's and the methodologies required to obtain the correct information essential for optimal business performance (Wang, 2008). Secondly, from a more managerial point of view, it is seen as a managerial philosophy and a device that is utilized to aid organizations organize and refine information and make more efficient business decisions by communicating the right information to the right people at the right time (Ghoshal & Kim, 1986). Furthermore, a BI system has also been described incorporating the ability to change with business and dynamic marketplace that goes beyond

delivering the initial solutions through a combination of tools, databases, and vendors to providing an infrastructure (Kursan & Mihić, 2010).

It is apparent by now that BI is a broad term, but at its core it points to the process of providing decision-making information desirable to businesses. In BI, the stress is on real-time information that facilitates decision-making throughout the organizational echelons. To have an effective BI system, an organization can integrate many of the following sub-processes with the BI, such as: enterprise resource planning (ERP), supply chain management, customer relationship management (CRM), financial analytics, and operational analytics (Kursan & Mihić, 2010). The data collected from these sources are then funnelled through the BI applications and churned into actionable information that the managers bases their decisions upon.

Ranjan (2008: 461-464) explains three types of BI mechanisms in terms of the overall layout of its components. The components are generally the sub-systems collecting data from different business operations (i.e. ERP, SCM, CRM, etc.). These mechanisms are embedded BI systems, integrated BI systems, and collaborative BI systems. In *embedded BI*, the executive enquiries are wrapped as self-services and invoked from the operational systems. It is done through integrating self-service BI tools into commonly used business applications (Ranjan, 2008; Rouse, 2015). While in *integrated BI*, the BI tasks are coordinated with one another, and synchronized with business operations in a seamless way to deliver greater consistency and planning coordination efforts across the enterprise (Ranjan, 2008). Lastly, *collaborative BI* is a relatively new technology, where the collaboration technologies are merged with BI in support of a more interactive and cohesive decision making (White & Imhoff, 2012).

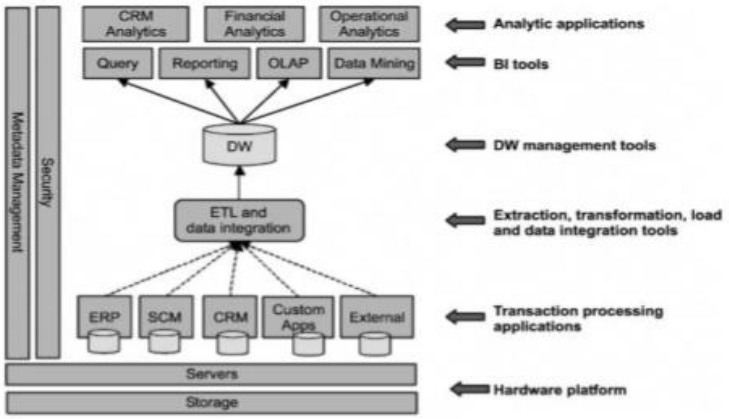

Figure 1: Example of a BI environment (Ranjan, 2008: 466)

Figure 1 demonstrates a typical BI architecture, with its component composition. It is important to mention that regardless of the BI mechanism an enterprise selects, the core architectural environment of a BI system remains mostly unchanged, where BI arises as the result of consolidating and analyzing data from the different enterprise operational systems into actionable knowledge, used for decision making (Ranjan, 2008).

As apparent, customer relationship management analytics, or CRM analytics is an integral component in the BI process. This is particularly noteworthy for this paper, since, customer intelligence stems from here leveraging the analysis structure of BI in the CRM context (Liautaud et al, 2001, p 130).

2.2 From CRM to customer intelligence

Customer intelligence can be defined as the holistic and flexible understanding of customers that results from gathering, contextualizing, and analyzing data (Douglas, 2016). Sean kelly (2005) posited customer intelligence to be the knowledge that an organization has concerning the likely future intentions of its customers- current or prospective.

To spark a discussion about customer intelligence, its relationship with customer relationship management (CRM) should be established. Briefly mentioned in the previous chapter- customer intelligence is the result of a process arising out of leveraging BI tools and techniques in the CRM context. In other words, customer intelligence- is akin to BI, when bounded by the customer focused operations. The goal of both processes is to generate actionable knowledge for the decision makers. Customer intelligence is this process of collection and analysis of information, and the resultant actions grounded in the intimate understanding of the customer, and, CRM enacts this process by collecting the necessary data (Liautaud et al, 2001: 136).

Customer intelligence's scope is limited to customer centric issues, where it provides better meaning to hidden and sometimes unavailable customer data, their impact on businesses, consumer behavior, and buying decisions (kursan et al. 2010). According to the same authors, customer intelligence also provides an opportunity for businesses to develop customer profiles, offer information about product and service performance relative to the customers, nurture relationships with profitable customers, garner insights on consumer buying practices, ensure alignment between product improvements and customer needs, etc. Although, BI and CI principally stands on similar technological architecture, there is one important distinction between the two, as observed by Laursen (2011).

The BI process is fueled predominantly by data warehouse's (DW), whereas, customer intelligence is less particular about the source, and the data can be coming from DW's, questioners, tacit knowledge stored by experts, customers feedbacks, and more, if its analysis supports decision-making in customer management.

Discoordination among the various customer handling departments have long plagued organizations. As Liautaud et al. (2001: 138) observed, the numerous departments in charge of customers have a reasonable account of their own interactions with the customers, but, oftentimes have very limited idea concerning the other communications-- *a salesperson knows how many calls she made to a customer for a potential new sale, a customer support*

representative knows how many times a customer has called to complain about product defects, while, a marketing manager knows how many times he called that customer to serve as a reference. The author continues by saying that because of a lack of information sharing among the customer facing departments, the employees are typically left with partial knowledge that inhibits their ability to address the customer expectations effectively and efficiently (Liautaud et al, 2001, pp. 138-139).

Since customers are the central element for a business, understanding them holistically is a matter related to its survival. Stein et al. (2013) posited that the CRM record perhaps offers the most comprehensive information source to the managers in cultivating trust and commitment while dealing with the customers, in enhancing the firm's responsiveness to customer woes, in deciding on actions reducing customer defections, as well as in reducing marketing related costs. Furthermore, when CRM data is consistently applied for decision-making it could have a transforming effect on the firm's value creation process, starting with the initial customer prospecting and continuing all the way through contract renewal negotiations (Stein et al. 2013).

Briefly, there are three principal types of CRM systems- the Operational, concerned with marketing, sales, and service; the Collaborative, that deals with integrating different business sectors, and functionalities; and the Analytical, concerned with analyzing the customer data and uncovering trends and forecasts (Kulpa, 2017). Together, the knowledge gathered through CRM data enables managers to have a holistic view on why customers stay and why they leave. This understanding requires close-up knowledge about customers and customer intelligence fills the gap here as it operates with the goal of treating each customer as an individual, regardless of the size of a customer base for a given company (Peppers & Rogers, 1993).

Studies have shown that it is anywhere between five to 25 times costlier acquiring a new customer than keeping a current one (Gallo, 2014). An important attribute of customer intelligence is that it allows the firms to maximize the value of its existing customers by

ultimately allowing it to deliver the best service and interaction with the customer (Liautaud et al. 2001: 136).

Furthermore, the intelligence garnered through CRM records can help determine the directionality of negotiations with customers and the variables for customer related decision-making; because of the BI roots at play here, this knowledge is available in a real-time setting (Stein et al. 2013).

On the other hand, we know that dynamic capabilities are processes embedded in firms that arises from the everyday activities of the employees and it propels the firm towards sustainable competitive advantage (Eisenhardt & Martin, 2000). Polanyi (1976) observed that dynamic capabilities are grounded in managerial tacit knowledge which ensures that they are not easily documented, transferred internally among business units and, more significantly, cannot readily be imitated by competitors. On the other hand, at least part of the customer intelligence operations includes collecting managerial tacit knowledge and distributing them throughout the organization. From this perspective, customer intelligence complements the dynamic capabilities of the firm at least in a two-fold way: it enhances the sensemaking capabilities of the managers by increasing their tacit knowledge as well as helps the organization with their absorptive capacities by collecting, storing, and disseminating valuable customer related information (Thomas et al. 2001).

Finally, from a marketing perspective we can look at Maklan & Knox (2008) proposed four principle dynamic capabilities of an organization: demand management, developing marketing knowledge, brand building, and customer relationship management (CRM). From this viewpoint also, CRM emerges with a direct claim to dynamic capabilities. Lastly, Maklan & Knox (2008) observed that CRM serves as a means for developing how the firm relates to its customers and we have already discussed Liautaud's (2001) view that customer intelligence is a result of utilizing business intelligence in the CRM context.

2.3 Sensemaking as a dynamic capability

Dynamic capability concept arises from the resource-based view (RBV) of the firm. RBV argues that the capability to create and utilize knowledge is the crucial inimitable resource resulting in the creation of sustainable rents (Scnenderl, 1996). This view also argues that the process of learning - rather than what is learned – may be more important in the long run than the knowledge that be of the day. The rates of learning can lead to first mover advantages while the speed of learning can give rise to sustainable conditions that is dependent on the dynamism of the firm (Merali, 2000). One common criticism against RBV is that it does not explain the mechanisms by which resources create competitive advantage. Furthermore, the RBV implicitly imagines product markets as homogeneous and immobile where product markets are underdeveloped with static demand to simplify the strategic analysis process (Wang et al. 2007). Dynamic capabilities emerged to address his vacuum of transformational mechanisms. Wang et al. (2007: 35) defined dynamic capabilities as *a firm's behavioral orientation that integrate, reconfigure, renew, and recreate its resources and capabilities while also upgrading and reconstructing the firm's core capabilities in response to the changing environment*. Furthermore, Wang et al. (2007) concurred with Eisenhardt & Martin (2000) that dynamic capabilities are not merely processes, but it is *capabilities* that are embedded in *processes*.

There is a difference, however, in the orientation of processes and capabilities in this context. Wang et al. (2007) saw processes as explicit and codifiable, through which resources can transferred within or across firms with relative ease. On the other hand, capabilities are more firm specific that includes both explicit and tacit elements, and at its essence refers to the firm's ability to disperse resources (Wang et al, 2007).

Learning plays a key role in attaining dynamic capabilities, as these capabilities makes up a firm's systematic methods for adjusting functional routines (Zollo & Winter, 2002). This notion is also supported in Collis (1994), who posited that if learning mechanisms are systematic, they can be considered as 'second order' dynamic capabilities. This is important

because in organizational theory learning and sensemaking are closely related (Calvard, 2016), and sensemaking is one of the components that constitutes dynamic capabilities. Especially when the essence of dynamic capabilities is a firm's behavioral orientation in the adaptation, renewal, reconfiguration and re-creation of resources, capabilities and core capabilities responding to external changes (Wang & Ahmed, 2007).

In an increasingly complex environment sensemaking is a particularly apt capability to nurture. Faced with heightened uncertainty organizations can either reduce or absorb the reality it faces (Boisot & Child, 1999). Typically, organizations that reduces complexity has more of an internal focus and attempts to buffer their internal systems from the disturbances of environmental change (Neil et al. 2007). However, organizations that chooses to absorb complexity has a more daunting task in their midst; and as such it develops '*adaptive systems'* through which it addresses, integrate, and synthesize varying contradicting aspects of their environment and develop many competing interpretations. And, it is in this act that sensemaking becomes a relevant quality (Neil et al. 2007). Thus, organizations that are not deterred by the environmental complexity encapsulates a sensemaking ability that is expressed by a set of collective routines that shapes *what information is assimilated, how its interpreted, and which actions that are considered* (Neill et al. 2007: 732).

However, organizational complexity is not such a linear issue rather there is always a pool between the forces of environmental simplicity and complexity (Calvard, 2016). Cunha & Rego (2010) proposed that these two forces are counter balancing each other while at the same time providing the condition for the promotion of the other. We can thus observe an emergence of 'duality' here, and the authors expressed this in the notion of '*simplexity'.* This is a key state for organizations to embrace and we will be discussing its relevance in the following chapter.

2.3.1 Simplexity in the BI context

Organizations that become too simplistic over time set themselves up for failure in the long run and conversely it is also possible that they produce too much complexity and unable to achieve coherent value or adequately clear communications (Calvard, 2016). Simplexity is a result of this paradox- where it acknowledges the need to make matters simple, cognizant, and general; however, with the caveat that this drive towards simplicity is rather complex and considers the dynamic environment (Calvard, 2016; Colville et al. 2011).

Simplexity is further relevant to this discussion because of its relevance to big data. Especially when the large. amount of complex data is tempting organizations to take actions, generating surprising insights, and promotes the ongoing rounds of collection, comparison, and interpretation of big data (Weick, 2012). Based on Weick (1969), Calvard (2016) advocated that sensemaking strives to reduce complexity by emphasizing on a '*vocabulary'* of elements that are attempting to structure themselves in order and the '*grammar'* connecting those elements into a variety of compositions. Conversely, organizational learning is being increasingly acknowledged as a dynamic process which is emergent in nature, complex, and *borne from the tensions residing in organizations as complex adaptive systems* (Calvard, 2016: 69).

Therefore, we are witnessing a duality in terms of organizational simplicity and complexity; where learning and sensemaking are on opposite poles, and where simplexity provides a delicate balance between reductionism promoting sensemaking and spirited multiplicity obstructing unity of interpretations and allows learning possibilities (Serres, 1995). Big data driven decision making becomes relevant here as it juxtaposes sensemaking and organizational learning by exploring the connections among people, places, or events in order to anticipate their trajectories and act efficiently (Klein et al. 2006).

Big data can shed light on areas outside the firm's knowledge realm and in the process uphold higher order forms of organizational learning. However, as Calvard (2016) reports, to reach

this state the learning must depend on the continuing sensemaking activities to fix, frame, temper, and reveal forms actionable meaning; while being able to engage these meaning for big data would facilitate the duality of relationship between the organizing nature of sensemaking and the disruptive inclinations of learning.

It is apparent that big data on its own do not provide meaning. In order to salvage meaning from large datasets, a BI process must overcome four barriers. Based on Calvard's (2016) findings they are discussed as follows.

1. Getting from complexity to simplexity:

The duality between the complexity and simplicity in the organizational learning context has already been discussed. For organizations to benefit out of knowledge, a certain 'simplexity' equilibrium must be attained, to avoid the pitfalls of being too simple in learning endeavours while simultaneously dodging the risk of generating too much complexity and making it impossible to communicate effectively.

2. Interdisciplinarity as an interpretative frame for big data, learning, and sensemaking:

Siedlok & Hibbert (2014: 10) described interdisciplinarity as:

´´A continuum of possible meanings and activities, with the core of the definition being the integration or synthesis of two or more disparate disciplines, bodies of knowledge, or modes of thinking to produce a meaning, explanation, or product that is more extensive and powerful than its constituent parts''

To exploit big data, organizations need to develop the supporting capabilities necessary. Sensemaking in this context is a multi-disciplinary task that often requires specialty knowledge from statistics, computer science, applied mathematics, and economics, as well as other task specific disciplines necessary to the tasks that be (Calvard, 2016). Managing this interdisciplinary process is a big challenge for effective sensemaking.

3. Reflecting on ideologies of learning and knowledge production:

Organizational actors inadvertently bring their disciplinary backgrounds interpreting big data and hold different views with regards to how this resource should be managed, how to convert inputs into outputs, and especially how knowledge should influence the coming stages of actions and decisions. There are certain defensive barriers to organizational learning and literature informs us that it applies to working with big data, as well; furthermore, it has sensemaking pressure towards being compliant, competent, decisive, and diplomatic (Calvard, 2016; Argyris, 1976). Moreover, big data analytics has distinctive threats with issues such as favoring quantity over quality, correlation over causation, or misinterpreting actionable information, and a failure to consider the complex ideological schemes of the actors responsible for the sensemaking process of big data management might exacerbate the situation. (Calvard, 2016)

4. Mutually aligning sensemaking and big data domains of application:

The final challenge is the alignment of sensemaking and big data. It is necessary given sensemaking has only limited quantitative analysis faculty and whereas big data does not possess the processes for social construction. As organizations become more complex so does the interplay between learning and sensemaking, thus constructing a pragmatic big data project becomes more of a tedious task. Sensemaking in this context can help to constrain whereas learning can help to enact numerous dynamic classifications of big data by the means of data collection processes, departments, or operational areas with the most potential for inquiry, innovation, and analysis. The challenge here is to construct a conducive alignment of social-cognitive process between learning and sensemaking that would seamlessly travel through the medium of big data itself. (Calvard, 2016)

2.3.2 Individual sensemaking

Human beings as well as their organizations have an innate tendency to understand what and why they are engaging in something as it relates to making sense of their experiences and the purpose of their actions (Dizdar & Esen, 2016). Individual sensemaking arises from this context. In an increasingly complex environment sensemaking has become an essential managerial quality to have.

Weick (1995) articulated that sensemaking occurs when active agents construct sensible events by structuring the unknown, and it is grounded in both- the individual level and at the social (or, organizational) level. On the other hand, Simon, (1991) have argued that organizations are best seen as systems of interrelated roles and that learning occurs here at an individual level. Furthermore, the knowledge of an organization is an aggregate of the knowledge of the individuals that belong to it. Combining the two, one view of sensemaking can be that while it is embedded in the organizational level, the learning necessary for it takes place at the individual level.

Dizdar & Esen, (2016) posited that sensemaking is an individual exercise that helps interpret environmental cues and often explains complicated and surprising events and issues. From this perspective, sensemaking emerges as a tool that helps individuals navigate the complexity and the uncertainty of their environments by constructing a sensible account of the surroundings. Furthermore, this construction is usually shaped by the individual's orientation as a person (e.g. beliefs, tendencies, or professional background) (Leiter et al. 2010).

For sensemaking engagement to take place, the environmental conditions are generally unclear, and the expectations are usually loose, and this is true at an individual level as well as at an organizational level (Dizdar & Esen, 2016). While Pernu et al. (2015) further commented that sensemaking ensues when organizational actors encounter unexpected or confusing events and matters and that requires an action. Sensemaking in such instances is

shaped by exchanges with others involved in comparable situations and the more complex the matter become, the more individuals pursue the interpretation of others, and through these exchanges of opinions a group-level categorization appear (Pernu et al, 2015).

Richter (1998) has furthered the view that organizations as interpretive systems are formed to understand the world and that any resulting product or services are a by-product of the collective sensemaking process. From this point of view, the individual's job as a learner is to partake in sensemaking and participate in process of distributing knowledge within and among colleagues (Wecik, 1995).

The sensemaking process, Pernu et al., (2015) continues, is retrospective and future oriented simultaneously; it sheds light on the past which affects individual's current views as well as leading to actions affecting the future. In a business context this implies that the experiences, interpretations, and perceptions of individuals in their sensemaking process guide their decisions. Thus, at its core sensemaking is about meaning, action, and the interplay of the two (Weick et al. 2005; Pernu et al. 2016).

According to Weick (2012) sensemaking is both episodic and continuous, as the author identifies the following seemingly contradictory characteristics in the sensemaking process- they are ongoing, yet they are also temporarily stable, provisional resting points, and constructs episodic occasions. This ambiguity regarding the sensemaking can also be observed in the Weick's (2008) definition of sensemaking: that this is an ongoing retrospective development of plausible images that rationalize what people are doing. Weick (2012) elaborates here that while the ongoing nature of sensemaking points to its dynamism, the development of plausible images refers to the distinct and somewhat stationary images.

Managerial sensemaking is particularly important today with organizations confronting numerous possibilities that are fragmented and not easy to understand (Pernu et al. 2015; Mouzas et al. 2008). The success of managers to discern the developments in their business network and consequently their ability to mobilize resources according to their interpretation, can increase the organization's competitiveness (Mouzas et al. 2008).

In terms of managerial learning, Richter (1998) suggests that an executive's own learning as individual deeply influences on the way they make sense of their own as well as others' experiences, while also boldly contributing to the organizational learning and change process. Indeed, the role of individuals in the sensemaking process is important, especially since the organizational capabilities of recognizing insights, thought and behavior is innate to its members; however, if the focus is set exclusively on individuals there is a chance of missing out on the social context of learning where individuals are embedded (Crossan et al. 1995).

Finally, it is important to mention that managerial actions are not necessarily an objective outlook of the environment but rather the environment as individuals considers it to be (Ellis & Hopkinson, 2010; Möller, 2010). Individuals begins to act in a certain manner as ambiguous situations becomes less cluttered (Weick et al. 2005), however, this does not necessitate the emergence of shared group-level frames throughout the organization, because, while two individuals may share the same experience, their sensemaking might differ resulting in different actions (Drazin et al. 1999). Also, on the other hand, there is also a kind of organizational resistance, arising from a variety of regulations, structured decision-making processes and compromises between opposing forces in the organization that steers individual behavior toward some commonality (Pernu et al. 2015).

2.3.3 Organizational sensemaking

Sensemaking is a central element to organizational learning. In fact, Weick et al. (2005) considered sensemaking and organizations to be constituting on another. More formally, we can view sensemaking as a procedure through which an organization acquires, interprets, and acts on information regarding its environment on its quest to shape the inherent flux of human actions, to drive it toward certain ends, and to give these actions form through generalizing and institutionalizing particular meanings and rules constituting the organization (Weick et

al. 2005; Tsoukas & Chia, 2002, p. 570). Similar views on the topic also came from Sackman (1991: 33), who defined organizational sensemaking as a set of instruments that governs the enterprise's standards and rules for *perceiving, interpreting, believing, and acting.*

Neil et al. (2007) posited a more customer centric angle by proposing sensemaking a capability that facilitates innovative and timey marketing strategies in its quest for heightened customer centric performances. In chapter 2.2, we have already discussed that the scope of the customer intelligence systems is designed not only to guide the individuals belonging to the firm's but also the organization as a larger entity.

From this point of view, we can investigate Wiley (1988) proposed three levels of sensemaking at the organizational level: the *intersubjective*, the *generic subjective*, and the *extra subjective*. In the first level, the individual opinions, feelings, and intentions are merged or synthesized into conversations through which the self, "I'', is transformed to "we''. The next level, the generic subjectivity, is the level of social structure, where Wiley (1988) puts organizations. The distinguishing feature of this level is the shift from inter-subjectivity to generic subjectivity. Generic subjectivity can take many forms, such as: scripts, described as ''standard plots of types of encounters whose repetition constitutes the settings' interaction order''. Generic subjectivity allows individuals to substitute for one another and adopt their responsibilities and meanings. The trademark of organizational sensemaking in general are interactions that tries to govern organizational uncertainty through a combination of intersubjective and generic subjective. Finally, according to the third dimension of Wiley's (1988) analysis- culture is extra subjective. A generic self that inhabits roles is now substituted by 'pure meanings', bereft a knowing subject. This is a symbolic reality that represents an abstract idealized framework derived from prior interaction, and organizations are continually striving towards it.

Customer intelligence systems can help elevate organizational sensemaking from intersubjective to the generic subjective level (Liautaud, 2001). By creating a tacit

knowledge reservoir as well as by documenting everyday operational knowledge it facilitates organizational members to substitute for one another and assume their tasks and meanings.

2.3.3.1 The components of organizational sensemaking

Organizations with developed sensemaking capabilities are better suited to process a greater amount and variety of information by the means of communication, interpretation, and analysis (Neill et al. 2007). Together these components lead to a greater range of behaviors that aids in the firm's ability to develop and retain competitive advantage by enhancing the ability to configure and deploy resources in a changing environment. To better understand sensemaking from an organizational point of view, the above-mentioned components are discussed further.

Communicative: strategic information exchange

This component for sensemaking help organizations to develop a cohesion in collective understanding. Organizations are a collection of individuals who are divided into different functional areas, skills, as well as personal orientation in terms of culture, character, and other factors pushing towards heterogeneity. Neill et al. (2007) posits that it is only through interaction and collective experiences that organizational members acquire an understanding of the environment or interpretation of their environment. This component traces its intellectual roots in the cultural perspective of the organization rather than in the cognitive perspective and especially in the works of Cook & Yanow (1993) who argued that culture is partly constituted from the intersubjective meanings though its members expressing themselves in their shared practices regarding objects, language, and actions, and thorough which an organization's collective knowledge is transmitted, expressed, and put into action. As a result of this this interaction the group perspective is embedded in the mind of the manager as well and it elevates individuals from perceiving the organization as an assortment of individuals to individuals' members as a reflection of the group (Cook & Yanow, 1993;

Neill et al. 2007). Furthermore, sharing of the strategic information helps to compensate the limited capacity of the individual decision-makers and improves the quality of decision-making (Hutt et al. 1988; Neill et al. 2007). Through communication, information can be perceived in a wider context, and through it - as the exchange of strategic information - companies make better sense of their environment (Slater & Narver, 1995).

Interpretative: strategic complexity

The concept of strategic complexity is closely linked to the cognitive complexity of individuals. Cognitive complexity is the individual's aptitude in differentiating and integrating diverse stimuli, while in the case of organizations- strategic complexity is its ability to perceive the environment in a multifaceted way (Neill et al. 2007; Streufert & Swezey, 1986). In the process of making decisions managers scan their environments and act on their pre-existing schema (Neill et al. 2007). Schemas guide their action by acting as information seeking and interpreting structures (Neisser, 1976). On the other hand, strategic orientation serves organizational schemas by selecting and modifying experiences and in the process molding the perceptions of the strategic situation (Neill et al. 2007). Complex organizations adopt the four strategic dimensions for decision-making - competitor, customer, product, and macroenvironmental- and are also capable of differentiating and integrating complex environmental information (Neill et al. 2007; Boulding et al. 1994).

Analytical: multiple perspective consideration

Neill et al. (2007) describes multiple process consideration as the differentiation and integration of various viewpoints while decision-making. This is a complex process, because the strategic decision making involves multiple actors promoting varied points-of-views and selecting on a specific course of action requires a blending of opinions amid the decision takers (Nell et al. 2007, Frankwick et al. 1994; Walsh & Fahey, 1986). As Neill et al. (2007) further elaborated that such viewpoints include the opinions of organizational decision makers regarding the ongoing state of affairs, if action is required, and likely ramifications

of those actions. The three phases considered by Neill et al. (2007) in constructing the multiple perspective consideration are: identification, development, and selection; and Mintzberg et al, (1976) have resolved that far from being addressed in a sequential manner these phases are addressed in simultaneous, interrelated events. Furthermore, Mintzberg et al. (1976) identified the decision-making process as dynamic and unstructured, which starts with identifying an incentive for action and ends with a particular commitment to action. This process also includes entertaining multiple perspectives simultaneously through problem definition, development of alternatives, and solution selection. And, repeating this complex process, organizations make sense of their surroundings by navigating from little to deeper comprehension. (Neill et al. 2007)

2.3.3.2 The building blocks of organizational learning

Teece (1998) articulated that for firms to demonstrate dynamic capabilities it must sense the opportunities and the necessity for change. During 'sensemaking', an organization obtains and interprets messages on a variety of market factors as well as regarding the firm's own state of being. Customer intelligence emerges as a potential source of knowledge here.
To understand organizational sensemaking in a holistic way, we also must investigate organizational learning behavior. Managerial cognition theories underscore the need for an organizational knowledge base to support the managerial strategic choices, and Walsh (1995) views this as a sign of the important role sensemaking plays in such learning. Furthermore, organizations that can churn information into knowledge and learning will have a massive advantage, especially the ones operating in highly uncertain environments (Baldwin et al. 1997).

Strategic learning derived from this process becomes a vital asset to the organization and when integrated into the organization’s memory, can lead to its effectiveness (Thomas et al. 2001). To understand this learning process better we can look at the framework proposed by Zollo & Winter (2002) that bridges the behavioral and cognitive organizational learning

process by taking into account not just the experience accumulation process and but also the articulation and classification of knowledge gathered from reflecting on previous experiences. The three building blocks of this framework are summarized below.

Experience accumulation

Experience accumulation refers to the central learning process by which operating routines typically develop, which is the development of organizational routines through an experiential process (Zollo & Winter, 2002). At the center of this process is organizational routines and how it leads to dynamic capabilities. The authors defined routines in this context as *stable patterns of behavior that characterize organizational reactions to variegated, internal or external stimuli* (Zollo & Winter, 2002: 341). In the organizational context, there are two certain types of routines. The first type is concerned with executing known procedures that generates revenues whereas the second type, known as search routines, is more exploratory in nature, and can be seen as a forming part of dynamic capabilities.

Knowledge articulation

Zollo & Winter (2002) observed that when organizational members shared their own experiences and compared their opinions with that of their coworkers, they reached an increased level of understanding of the drivers moderating between the activities necessary to perform a specific task and the resultant performance outcomes. In a changing environment it is a difficult task to measure organizational processes for their performance implications, as significant casual ambiguity is present there (Lippman & Rumelt, 1982; Zollo & Winter, 2007). In order to derive sense out of this ambiguity organizations should stress on higher-level cognitive labors and shared learning challenges; however, it is also necessery to note that only a minor fraction of the articulable knowledge is actually done so, and organizations vary greatly in their ability in this regard (Winter, 1987; Cowan et al, 2000; Zollo & Winter, 2007). It might be an effortful task to tune the organizational culture towards a more knowledge articulation friendly one, but once implemented it can yield an heightened

understanding of the new and evolving action-performance links, and consequently help modify the existing sets of routines as a well as a deeper recognition of the requirements for fundamental changes (Zollo & Winter, 2007).

Knowledge codification

Codification is viewed as an important supporting mechanism in the knowledge evolution process. It is built on knowledge articulation and is achieved only after some degree of articulation has been conducted (Zollo and Winter, 2007). Through codification organizations can facilitate the generation of new proposals to change the current practices, furthermore it can also help identify the advantages and disadvantages in the planned variations of the existing set of routines. Important to mention that cognitive simplification is intrinsic in the codification act which can make decision-making more effective. However, codification has its costs as well, for instance the time, resources, and the managerial attention required for this process as well as an empowerment of organizational inertia which might result from organizational routines and processes if codification have been conducted in a substandard manner (Zollo & Winter, 2002).

2.4 Absorptive capacity of organizations

2.4.1 ACAP and dynamic capabilities

Another important component of dynamic capabilities in firms besides sensemaking is absorptive capacity (or, ACAP). Cohen & Levinthal (1990) defined ACAP as a firm's capacity to value, integrate, and apply new knowledge to attain business goals. They also argue that ACAP in organizational level is mostly a function of the entity’s level of previous related knowledge while in the individual level it manifests from previous related knowledge as well as the diversity of background in the cognitive level. ACAP plays a vital role in enhancing the innovative capabilities of an organization (Cohen & Levinthal, 1990). In

expanding the concept of ACAP, Zahra & George (2002) commented that ACAP is comprised of two subsets of capacities: potential and realized ACAP. Potential capacity refers to knowledge acquisition and assimilation capabilities, whereas realized capacity focuses on knowledge transformation and exploration.

And, since business intelligence, as Negash (2004) articulates, is a form of knowledge and ACAP is one of the primary capabilities that paves the way for turning knowledge into organizational resources, certain aspects of ACAP are natural points of interests for this research. For example, Zahra & George (2002) commented that firms have a better chance of achieving competitive advantage through innovation and product development if they possess a higher degree of capabilities in knowledge transformation and exploration. How customer intelligence is leading to value creation in this regard is a necessary investigation.

Cohen & Levinthal (1990) explained that, as the framework of communication between the external environment and the organization needs to be studied, it is also imperative to study the nature of communications among the organizational subunits, as well as the character and dispersion of expertise inside the enterprise. It is because the communication mechanisms may depend on the specialized actors while transmitting information from the environment and could bypass the more structured patterns. Cohen & Levinthal (1990) went on to say that these specialized actors operating at the interface between the firm and the environment or between the subunits inside the firm play the most crucial role in harnessing the firm’s absorbtive capacity. Thus, customer intelligence systems may act as one form of interface of efficient communication between the environment and the organization- absorbing information and churning it into knowledge.

Lastly, since Zahra & George (2002) proposed that a firm's ability to create, manage, and exploit knowledge is a crucial resource for realizing dynamic capability, thus ACAP literature becomes a natural fit in the quest to understand certain aspects of the customer intelligence driven value generation in dynamic firms.

2.4.2 The four dimensions of ACAP

As briefly mentioned in the previous chapter, Zahra & George (2002) have argued that ACAP exists as two subsets of capacities- potential and realized. These two categories in turn helps us to understand the four component capabilities that constitutes ACAP. Potential ACAP is comprised of knowledge acquisition and assimilation capacities. Whereas, Realized ACAP consists of knowledge transformation and exploitation**.** Both categories are necessary to reap the full benefits of ACAP, and Zahra & George (2002) stresses on a symbiosis between the two.

Realized ACAP is especially needed for innovative outputs and further results that lead to the competitive advantage for the firm. On the other hand, the potential ACAP provides organizations with the strategic flexibility and the agility to adapt and evolve in competitive environments. Furthermore, Zahra & George (2002) asserts that it is potential ACAP that permits firms to maintain a competitive advantage in a dynamic industry setting. The four capacities making up the ACAP are integrative in nature and build upon one another, as demonstrated by Figure 2. Together they help produce a firm's capability to generate and deploy the knowledge necessary to develop other organizational capabilities, and eventually lead to attaining dynamic capabilities. (Barney, 1991; Zahra & George, 2002).

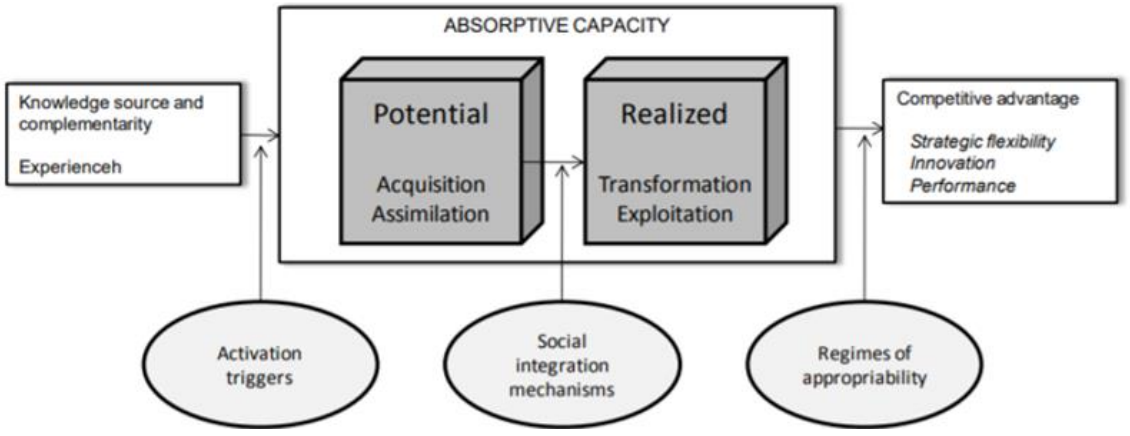

Figure 2: The components of ACAP leading to a firm's competitive advantage (Zahra & George, 2002: 192)

The four dimensions making up ACAP are summarized below:

Knowledge acquisition: This capacity points to a firm's ability to recognize and obtain externally formed knowledge essential to its operations (Camisón & Forés, 2009). Zahra & George (2002) also identified three attributes in the knowledge acquisition procedures which may affect ACAP: intensity, speed, and direction. It is important to note that a firm's acquisition capability is highly dependent on the intensity and speed of its actions to recognize and gather knowledge. Furthermore, the direction of accumulating knowledge also influences the paths that the firm follows obtaining external knowledge (Rocha, 1997).

Knowledge assimilation: Zahra & George (2002) described this capacity as the ability of the firm's routines and processes, which allows it to analyze, process, interpret, and comprehend the information gathered from outside sources. Comprehension is the most important factor to be nurtured here developing this dimension. Especially, with regards to externally acquired knowledge and ideas (Cyert et al. 1963; Rosenkopf et al. 2001). Among other issues external knowledge is context specific which might be an hinderance for outsiders to interpret and replicate the knowledge (Szulanski, 1996). This is where comprehension plays an important role as it promotes knowledge assimilation throughout the organization (Zahra & George, 2002).

Knowledge transformation: This capacity represents a firm's ability to cultivate and refine routines that facilitate merging a firm's existing knowledge and the recently attained and assimilated knowledge. Zahra & George (2002: 190) further stresses that this is accomplished by *'adding or deleting knowledge or by simply interpreting the same knowledge in a different manner'.* In other words, this process of refining the knowledge for organizational integration is one of the principle features of knowledge transformation. Also, transformation alters the characteristic of knowledge through bisociation that happens when a problem or idea is perceived simultaneously in two or more self-consistent but incompatible frame of reference (Dubitzky et al. 2012). This capability of firms to recognize two seemingly different sets of information and merge them to reach at a new schema is an important transformational

capacity. Arising out of the bisociation process this capability is particularly important for the entrepreneurial mindset as it drives entrepreneurial action (Dubitzky et al. 2012). Zahra & George (2002) further elaborates that knowledge transformation yields new insights, helps in the opportunity recognition process, while also facilitating the ongoing process of the firm's self-perception and the competitive landscape that surrounds it.

*Knowledge exploitation***:** Zahra & George (2002) proposes that exploitation as an organizational capacity is grounded in the procedures which allows companies to refine, extend, and leverage prevailing capabilities to develop newer ones by integrating acquired and transformed knowledge into its operations. While firms may have their unique unstructured knowledge exploitation process in place, systematic knowledge exploitation routines provide a firm with structural, systemic, and procedural mechanisms that allows it to retain knowledge exploitation over prolonged periods of time (Zahra & George, 2002). Furthermore, when the exploitation routine is systematic, its outcome can be persistent in creating new systems, processes, knowledge, and even new organizational forms (Barney, 1991).

2.2.3 Individual absorbtive capacity

Individuals play a central role in an organization's absorbtive capacity process, especially personnel standing at the interface between the firm and the external environment or between subunits within the firm (Cohen & Levinthal, 1990). Wal et al. (2011) elaborated this concept further by adding that at a fundamental level ACAP of a firm is dependent on its members to identify external knowledge, align it with the organizational capabilities, and enable its exploitation inside the organization**.** From this perspective, the principle challenge regarding individual ACAP becomes enabling employees to absorb external knowledge efficiently. Moreover, Wal et al. (2011) defined individual ACAP as the level of effort individuals assume to detect external knowledge in the environment, assimilate it in the firm, and employ it for commercial ends. Extending from this definition, we can look at Minbaeva et al.'s

(2013) assertion that since individuals are heterogeneous, their effort varies in-terms of their ability, motivation, and the way in which they exploit the opportunities to share knowledge in the organization.

A short discussion on the three drivers pointed out by Minbaeva et al. (2013) will help us understand individual ACAP in a holistic way. As already mentioned, the three drivers are: ability, motivation, and the opportunity to share knowledge provided by the organization.

Ability, or the first dimension can be viewed as the individual cognition and behaviour that plays an important part in the knowledge processing (Cohen & Levinthal, 1990; Minbaeva et al. 2013). Conversely, a lack of individual ability regarding knowledge processing can be seen as a deficit of intelligence, education, or experience (Anderson and Jolson, 1980). The second component here is *motivation,* as behavioral science postulates that aptitude itself is not enough of a predicator to achievement and that there must be a suitable amount of motivation driving an action, as well (Baldwin et al. 1991). The author further expresses that if the motivation is not sufficient then individuals even with a high ability to learn will struggle to absorb new knowledge. Minbaeva et al. (2013) have identified two types of motivation required for new knowledge absorption: extrinsic and intrinsic. As the name suggests, the two types of motivation deal with the internal and external stimuli driving the motivation. The last dimension in this regard is the *opportunity* to share knowledge in the organization. This is important because for knowledge transfer to occur inside the organization has to be a relationship that enables some form of interaction between the sender and the receiver (Mäkelä, 2007). Common tools employed by organizations to facilitate these opportunities are: improved team learning, developing communication bridges, cross-hierarchy dialogues, and create and share knowledge within organizations.

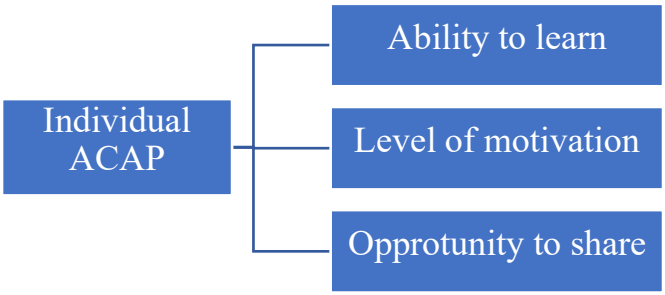

Figure 3: The three capabilities driving individual ACAP (Adapted from Minbaeva et al. 2013 and Wal et al. 2011)

2.2.4 Individual to organizational absorbtive capacity

As we move from individual to collective absorptive capacities it is important to take Cohen & Levinthal's (1990) observation that organizational ACAP is reliant on the individual employees. However, it is important to note that the organizational ACAP is not the sum of its employees, as Cohen & Levinthal (1990) further explained, ACAP refers not only the acquisition, assimilation of information, but also the organization's ability to exploit it. In order to fruitfully convert external knowledge into organizational assets firms need suitable transfer mechanisms in place until deep in the organization, as the manifestation of ACAP does not only occur at the organization's direct interface with the external environment. One particular matter that is of importance here is the structure of communication between the external environment and the organization, including the interaction among the subunits of the organization (Cohen & Levinthal, 1990). Another matter identified by Cohen & Levinthal (1990) regarding the source of organizational ACAP is character and distribution of knowhow in the organization.

In the question of assimilating external knowledge into the organization a relevant concept is the emergence of 'gatekeepers'. Since a firm's ACAP relies on the individuals standing at the interface of the firm and the outer environment, or between the subunits in the firm (Cohen & Levinthal, 1990), and if the nature of the knowledge of the external environment differs from the unit in question- some individuals may assume the role of 'gatekeepers'. In

this relatively centralized role their main task is to translate the knowledge for the rest of the unit (Allen, 1977; Tushman, 1977). In their boundary spanning role gatekeepers monitor the environment as well as translates the information in a form cognizable to the rest of the group. Conversely, when the external information is relatable to the group there is lesser likelihood of this role to emerge, though, as Cohen & Levinthal (1990) suggests, gatekeepers may emerge, after all.

The emergence of gatekeepers' points to a centralized interface function and in case of rapid and uncertain change this might lead to some difficulties. This is due to the ambiguous flow of information might bypass the traditional hierarchy and follow its own flow within the organization (Cohen & Levinthal, 1990). While it is also important to mention that even if the role of a gatekeeper is important, the individuals the knowledge is being transmitted to should also share a background similar enough to the information being shared; if the knowledge structures differ vastly, the requirement of the knowledge level may also be rather high.

Cohen & Levinthal (1990) also points to a trade-off in the ACAP of organizations in the form of inward-looking versus outward-looking ACAP. Here inward-looking refers to the efficiency of the internal communication while the outward-looking ACAP refers to the ease at which an organizational unit assimilate and exploit information originating from outer environments. They stress that while both these components are necessary and needs to be equally nurtured; the trade-off between the two also points to the centrality of the relationship between sharing of knowledge and diversity of knowledge across individuals to the development of organizational ACAP (Cohen & Levinthal, 1990).

Overlap of knowledge is indeed necessary among individuals for internal communication while diversity of knowledge among individuals facilitates the organization's innovative capabilities (Cohen & Levinthal, 1990). Furthermore, the authors argue, there is a risk of losing the innovative capacities if commonality of knowledge across individuals is too prioritized over diversity. Conversely, this has an important implication on the division of

labor in organizations, where advantages accrued from specialization contains a chance of hindering the communication capabilities among individuals.

The balance of these two components is an elementary issue in the question of organizational ACAP. One way to strike a balance between the two could be to nurture 'cross-functional' ACAP. Cohen & Levinthal (1990) argued that cross-functional interfaces affect the relationship among the R&D, design, manufacturing, and marketing functions of an organization. To attain dynamic capability these departments need to perform in cohesion as it affects not just the ACAP, but also the innovation capabilities of the firm; since the three primary capabilities constituting dynamic capabilities are- absorptive capability, adaptive capacity, and innovative capability (Wang & Ahmed, 2007).

Increasingly, the new information is being sourced from big data driven intelligence, such as BI or customer intelligence, and in order to assimilate such intelligence, Elbashir et al. (2011) have identified two levels of organizational ACAP. They are the ACAP of the top management team (or, TMT here after) and that of the operational level. The ACAP of the TMT affects more on the strategic planning and control level with their ability to recognize and absorb new information collected from external and internal sources. On the other hand, operational level ACAP refers to the ability of managers at the operational level to judge and absorb new information and apply it in support of the organization's business strategy and value chain activities (Elbashir et al. 2011). The authors also articulated that at this level, ACAP is heavily influenced by cultural control such as the intervention from TMT and focused knowledge-creation activities. Both levels of ACAP are mutually dependent on each other, especially on the question of BI/customer intelligence assimilation in the organization, as it is stressed that operational-level ACAP mediates the relation between the intelligence assimilation and the TMT.

We now come to the important question that weather ACAP can be bought from external sources through the means of new personnel, consultants, or through mergers and acquisition. Cohen & Levinthal (1990) suggests that for it to be effective, the integration of the ACAPs'

with the organizational units need to be efficiently done. Often these capacities are firm-specific and cannot be transferred in a readymade manner. Lee and Allen (1982) has a relevant research in this regard where they showed that to integrate new technical staff or those concerned with processes or product development, considerable time periods are needed. And, to pull this integration efficiently, especially if the knowledge is complex, the firm requires an existing internal stuff who can both- *comprehend the nature of the knowledge and are familiar with firm's idiosyncratic needs, organizational procedures, routines, complementary capabilities, and extramural relationships* (Cohen & Levinthal, 1990: 131).

2.5 Summary of the literature review

Based on the discussions so far, we propose the framework depicted in Figure 4. The framework is a continuum with three parts, starting at data collection and ending with informed decision-making.

The first stage is about information processing. This step stands principally on the discussion of chapters 2.1 and 2.2, where we have established the relationship between CRM and customer intelligence, that is customer intelligence can emerge by applying BI analysis methods in the CRM context (Liautaud et al, 2001: p 130). This stage considers the many CRM tools that are available in the marketplace which companies are using to collect and analyze customer data to understand and predict their behaviors.

The next stage investigates the effect customer intelligence has on the dynamic capabilities of the firm. Dynamic capability is a complex subject and requires a deep investigation. Two aspects of dynamic capabilities are considered here: sensemaking and ACAP. This stage proposes a link between intelligence gathered from the previous step being turned into knowledge that managers and organizations can use. Hence creating value in the process.

Finally, the last stage seeks to understand actions derived from this process. It is important because in the cyclic nature of customer intelligence managerial actions play an integral part.

Here the informed decisions will be investigated with regards to various business operations as well as strategic and tactical decision-making, understanding the customer needs and so on.

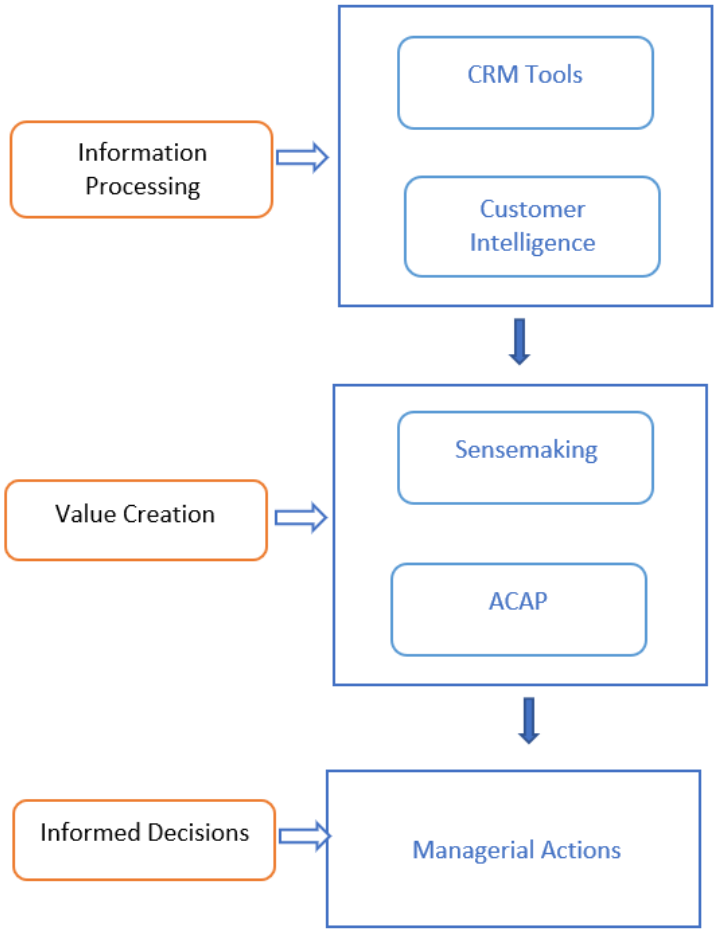

Figure 4: The theoretical composition of the thesis, with value creation at the center

3. METHODOLOGY

This chapter details the choices regarding the research methodologies. Various options regarding a qualitative study are presented and the decisions made by the researcher are justified. The first chapter elaborates the research design, which is followed by the research strategy implemented by this thesis. The next chapter details the case companies investigated for the empirical study as well as the reasons for choosing those cases. The following two chapters talks about the data collection and data analysis procedures, and finally the validity and reliability of the study are discussed.

3.1 Ontology & epistemology

Ontology is concerned with the nature of reality or being (Saunders et al. 2012: 130-131; Ritchie et al. 2013: 4-5). Saunders et al. (2012) identified two aspects of ontology that are related to management research: objectivism and subjectivism. The objectivist school of thought holds that social entities *'exists in reality external to and independent of social actors'* (Saunders et al. 2012: 131). However, the nature of this thesis is subjective, as this school allows individuals to perceive situations in varying ways as a consequence of their worldview. Managerial decision-making is a cornerstone of this research and the flexibility of social-constructionism is much needed to get a real-life sense of the issues faced by mangers. (Saunders et al. 2012: 131-132)

Besides ontology another philosophical concept governing a work of research is its epistemology. Saunders et al. (2012) defined epistemology as governing what constitutes acceptable knowledge in a field of study. There are several philosophical approaches in this regard that may form a management research, however, this research has opted for interpretivism as its epistemology.

To understand the rationale behind choosing interpretivism as its guiding principle, the other two principal philosophies merits a discussion. Firstly, the positivist school prefers working with a visible social reality and the product of such research are considered to be law like generalizations much like those produced by research in natural sciences (Saunders et al. 2007: 103). Naturally, the research intent of this thesis is not particularly suited for this method, as we are looking into the subjective world of the decision-making in a changing business environment. The other principal epistemological school is realism. The essence of this philosophical position is concerned with what we sense as reality, and objects here exists independent of the perception of human mind (Saunders et al. 2012: 136). There are two forms of realism: direct realism and critical realism. Direct realism asserts that what we observe via our senses portray the world accurately, whereas, critical realism argues that what we perceive through the senses are mere images or sensations of the world, not the thing in itself. (Saunders et al. 2012: 136-137)

The interpretivist school believes that researchers should consider the differences between humans in their role as social actors. The world of business research is often too ambiguous to be framed in a positivist or realist mindset and research in this domain requires flexibility to absorb complexity to isolate insights. As Saunders et al. (2007) believes that it is important for a management researcher to be empathetic to the social world of the research subjects to understand their point of view. (Saunders et al. 2012: 136-137)

3.2 Research design

A research design is the general plan of the way in which the research questions will be answered (Saunders et al. 2012: 159). To answer the research questions in a meaningful way the researcher has chosen to pursue a qualitative multiple case study investigation. The current chapter discusses the justification for the various design choices.

Firstly, this thesis is qualitative in nature. Epistemologically this study is interpretive, and because of the flexibility it provides to the researcher in making sense of the subjective and socially constructed meanings regarding the phenomenon being studied, this philosophy is more associated with qualitative research (Saunders et al. 2012: 163). Also, since qualitative methods aren't constrained by standardized measures and limited to a set of predetermined response categories – as often the case is with quantitative research methods – it is possible for the researcher to examine selected issues in greater depth and detail (Patton, 1990: 14).

The purpose of this thesis is formative in nature, which aims to improve an intervention by focusing on the strengths and weaknesses of a specific program, policies, or products being studied (Patton, 1990: 160). Accordingly, the thesis has focused on how customer intelligence aids in the managerial decision-making and, in the process, investigates the capabilities of various CRM tools in terms of the structure it provides to the decision-makers.

To achieve this goal the researcher has employed case study method. According to Yin (2009: 4) case studies are distinctively qualified to investigate complex social phenomena and allows examiners to retain - *the holistic and meaningful characteristics of real-life events*. This is also supported in Fisher's (2007) argument that case studies allow for a holistic understanding of the research topic. Especially since it allows the researchers to understand the factors forming a case – people, policies, groups, and technology – as well as the interrelationships among them (Fisher, 2007: 59-60). As such, case studies happen to be commonly used method in especially business research as it contributes to the knowledge of the individual group, organizational, social, political, and related phenomena. (Yin, 2009: 4-5).

The two principal forms of case studies are-- single and multiple case studies research. We have chosen multiple case studies here because a single case will lack the diversity of perspectives in terms of CRM tools and organizational procedures. Furthermore, one common criticism regarding case studies is that it often lacks representativeness, since the

results from a single case cannot necessarily be generalized to other situations (Fisher, 2007: 59-61). To mitigate this problem this thesis has considered a plurality of case companies.
With regards to theoretical orientation, there are more than one approach, à la deductive, inductive, or abductive approaches. A deductive approach is built upon existing theory, and where the conclusion is derived rationally from a set of premises. In contrast, an inductive approach is when known inferences are used to generate conclusions and builds theory in the process. The third approach is abductive, where it moves back and forth between theory and data. (Saunders et al. 2012: 143-147)

Because of the nature of the problem and availability of resources the researcher has opted for an abductive approach. This was chosen because of the flexibility it provides to explore a phenomenon, as well as identify themes and patterns, and locate these themes and patterns in a conceptual framework (Saunders et al. 2012: 144). As such firstly a literature review on the relevant concepts was conducted resulting in a theoretical framework. Next, following the framework elements a data analysis was conducted. However, when analyzing those elements in the data, themes and patterns were allowed to emerge as they come without any theoretical preoccupation. Lastly, a discussion was held to compare the findings and the literature which resulted in a modification of the theoretical model.

3.3 Data collection and selection of the case companies

The cases for this thesis was chosen by purposeful sampling method, Yin (2015: 46) defines purposeful sampling as when cases are selected because they are rich in information and offers useful manifestations of the phenomenon of interest; furthermore, sampling in this instance is aimed at the insight about the phenomenon, and not empirical generalization from a sample to a population.

Further zooming into the sampling strategy of the cases, the researcher has opted for stratified purposeful sampling. This occurs when cases are chosen because of the characteristics of

particular subgroups of interest, that facilitates comparison (Patton, 1990: 182). Accordingly, ten case companies were chosen based on their size, and given that they have qualified as a dynamic company. Regarding sample size, Patton (1990: 184-185) posited that there is no fixed rule for sample size in a qualitative inquiry and rather it depends on the scope, resources at disposal, and the purpose of the study. It appeared that a cohort of ten case studies would provide an ideal balance between the depth and the breadth of the study, in terms of the variety of CRM tools in use and the way they are influencing the decision-making process. A sample size of ten ensures a broad perspective while keeping the project manageable.

The selected case companies were structured into two groups based on their size, the small and medium enterprises (SME's) and the multinational corporations (MNC's). To bring deeper clarity to the research question and objectives a variety of companies in terms of industries were approached. This is because the CRM ecosystem landscape is heterogonous in terms of service providers and scope of the tools that make it up. Furthermore, there are variations in terms of the ways in which the tools are adapted to the company processes. Therefore, the CRM ecosystem's potency as a decision-making aid will be better understood if a diverse group of companies are juxtaposed next to one another.

To collect data, ten semi-structured interviews were conducted, one from each case. Semi-structured interviews enable the researcher to have questions based on themes while giving the possibility to modify elements of the questioner from case to case. In this way the interviews become more effective and can bring out a more pragmatic picture of the phenomenon being studied. Also, semi-structured interviews allow the interviewer to pursue interesting themes that may arise during the interview. (Saunders et al. 2012: 374-375)

The questioner had four principal themes, informed by literary findings and the theoretical model. The themes were: the state of the CRM ecosystem in the case company, questions related to sensemaking and ACAP, and, closing questions related to the decision-making practices in the firm.

In an ideal interviewee the researcher sought two major traits— who are regular users of at least one CRM tool and who are also occupying positions of meaningful decision-making. As a result, the interviewees ended up being typically in a middle to higher management position. A more elaborate discussion of the individual cases and the interviewees are presented in chapters 4.1 and 4.2.

Since this research is poised to investigate aspects of the dynamic capabilities in firms, the ten companies were chosen based on their financial health and facility with technological decision-making aids. The case company's financial health was determined by two metrics: increase in operating profits and growth in yearly turnover between 2016 to 2017. Since dynamic capabilities are capabilities integrated in the processes (Wang et al. 2007), pre-interview was held with the potential companies to assess the state of technological integration in the companies. Initially a total of 14 companies were considered, among them ten were chosen for deeper investigation.

The interviews were conducted between April to September of 2018, with regular intervals. The first interview was conducted as a pilot and a gap of a month was put in place before embarking on the rest of the interviews. Three of the interviews were conducted face to face while the rest of them were held though a mixture of phone/video conferencing technology. All the interviews except one was recorded.

In this study interviews are the primary source of data. While the secondary sources were numerous websites related to the case companies, the CRM tools, and also materials such as company brochures, presentations.

3.4 Data analysis

The data analysis process started with a content analysis of the interviews. Patton (1990: 381) termed content analysis as the process of identifying, coding, and categorizing the primary patterns in the data. This process entailed keeping an interview note to mark interesting points during an interview and to summarize the interview findings afterwards. Once the interview session was over the transcribing process began. For this the researcher purchased services from a web-based tool. However, the result of this service wasn't entirely accurate and as such a thorough review of the text had to be undertaken for each interview by comparing it next to the audio file.

Once the transcribing was complete, the files were allocated to the relevant clusters and two separate coding processes embarked. In both clusters, a similar method was followed, starting with coding the interviews. Here, following Patton (1990), firstly, the raw case data was assembled, which consisted of all the transcripts, as well as notes, and secondary sources. Secondly, several case records were constructed, organizing the raw data according to the themes identified by the theoretical framework. The case records then were condensed to identify patterns. Then a pattern analysis ensued. Patton (1990: 403) articulates that the process of pattern analysis begins by searching recurring regularities in the data. Afterwards, these patterns were sorted into categories.

Table 1: The process of comparative pattern analysis (adopted from Patton, 1990)

Original expression	Sub-catagory	Category	Cluster
We have for every month how much we have to sell and what's the sum. How much else we have to sell. And, that's the most important sum […] I check how much each employee have sold. I see a little bit how much work they have done and what's the situation.	Environmental cues	Sensemaking	SME

With Visma the most important is to find out the historical sales data and to know what directions are we going and how we are doing in relation to the budget. That's more like a back-mirror, something that gives you perspective about how you performed back in time	Environmental cues	Sensemaking	SME
We see that the percent of our leads are from this or that industry. So then we just send or make a mass campaign for them instead of focusing on an industry that only has a few companies in our CRM. In the end, yes, it has made even my team's decision-making process faster because it can be more agile.	Knowledge exploration	ACAP	MNC
We can actually see which customers responded best to which contents. We then strived to build this nurturing paths or programs depending on the customers actions and interactions, they would be fed different types of contents. And over time it would become more and more specific, depending what their interests were and actually reacted to.	Knowledge exploration	ACAP	MNC

Once done with the pattern analysis, the research took an extra step and constructed a data structure following Gioia et al. (2012). This was conducted for a deeper analysis of the data as well as to develop a more visual representation of the empirical findings. As such the identified patterns served as the 1st-order concepts followed by grouping them to four larger 2nd-order themes (Gioia et al. 2012). Finally, these 2nd-order themes are further classified into four aggregate dimensions representing the major tenets of this study. The complied data structure is presented in Figure 5. (Gioa et al. 2012: 19-21)

Finally, a case study narrative was written in the form of findings, where all the identified patterns were discussed in detail. (Patton, 1990: 387-389)

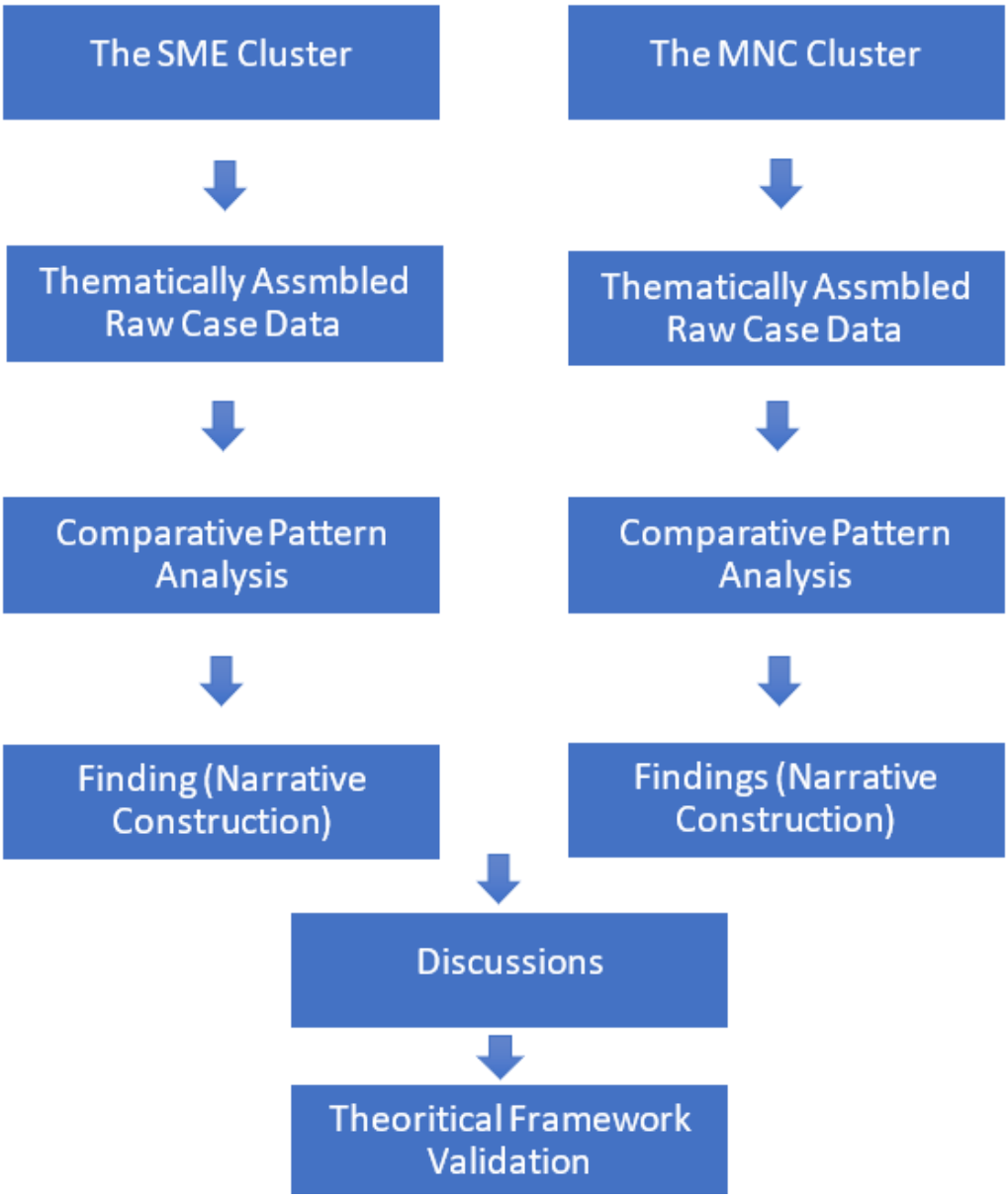

Figure 5: The progression of the empirical section (Revised from Patton, 1990)

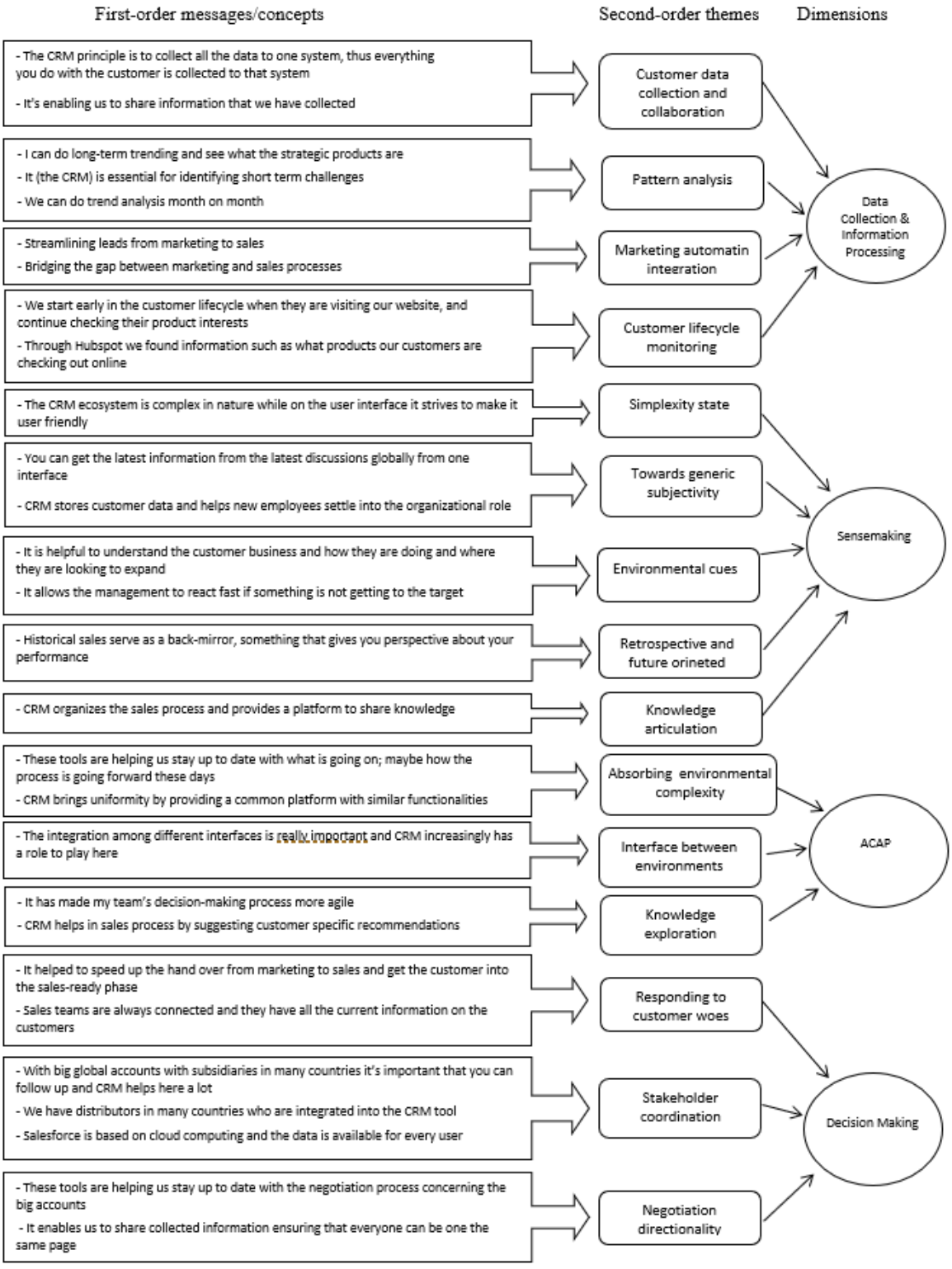

Figure 6: Data structure

3.5 Validity and reliability

Yin (2009: 40-41) proposes four ways to maintain the validity and reliability of a case study: construct validity, internal validity, external validity, and reliability.

Firstly, with construct validity, the correct operational measures are identified for the concepts being investigated by the research (Yin, 2009: 40). To ensure construct validity ten cases were considered to appropriate a pragmatic sense of the CRM generated customer intelligence phenomenon. Also, several interview transcripts were reviewed by the interviewees along with the notes from the sessions to make sure their opinions are properly represented. Secondly, internal validity is concerned with constructing a causal relationship where certain conditions are believed to be leading to others (Yin, 2009: 40). Yin (2009: 41) proposes several tactics to ensure internal validity, among which are: conducting a pattern matching, explanation building, use logic models and so forth. In this study the researcher has opted for a comparative pattern analysis as proposed by Patton (1990). To better identify the patterns and for coherencies sake, the pattern matching was conducted separately for two clusters of cases: MNC's and SME's. Thirdly, external validity is when a study's findings can be generalized beyond the study. To ensure this, the researcher uses a framework deeply rooted into the theory as its guiding light. Furthermore, a multiple case study method was utilized to ensure the findings of the research are generalizable.

Lastly, reliability demonstrates that the research procedures and results can be repeated with similar results (Yin, 2009: 45). The reliability of this study is ensured by a systematic and transparent sequence of procedures, beginning from the literature reviews to data collection and analysis. Furthermore, the semi-structured interview questions were framed with the help of the thesis supervisor and are documented; furthermore, the collected data, references are documented and well-articulated to ensure replicability of the study.

4. FINDINGS AND ANALYSIS

4.1 Introduction to the SME cluster

The 10 cases were divided into 2 broad categories- SME's and MNC's. This demarcation was put in place by judging three principle aspects of the cases: the size of the yearly revenue, geographical reach in terms of business operations, and number of employees.

The criterion for choosing the cases were discussed in chapter 3.2.

Although, the five SME's considered for this study can have their industries as far apart as meat processing and software development, while at the same time can have a CRM tool in common. Thus, it becomes very interesting to compare side by side how similar software characteristics manifests in different contexts.

The first case company forming this cluster is a meat processing company that produces different meat products both for wholesalers and for individual customers. It is based in the Ostrobothnia region in southern Finland, but their products can be found throughout the country and increasingly in the neighboring Estonia. The CRM tools used in this company are- Pipedrive and Vismanova. While for a certain period the company has used Hubspot to experiment with marketing automation. The interviewee from this company has a profile of Finance and Quality Manager.

The second case, an IT firm based in Helsinki, is a software as a service (SaaS) provider in the retail industry. Primarily based in Finland, the company is in the early stages of taking off internationally. The interviewee from this firm is the founder/CEO and the primary tool used being Hubspot.

The next case company is a Helsinki based consultancy firm facing both the private and public sector. A member of a larger consortium, the firm mostly focuses on designing and

conducting training programs for unemployed people. The interviewee from this case is an Account Manager, leading a team of 9. The tool being used here is Sugar CRM.

Another case considered for this part operates in the stationaries and office supplies industry. Particularly focused on audio-visual equipment, the company is run from the northern Finnish city of Oulu. The interviewee from this case is a Sales Manager/Partner and the CRM tool used here is Pipedrive.

The last company forming the SME cluster operates in the structural engineering sector, primarily focusing on the structural planning and consultancy services. Based in Vaasa, Finland, the company also has two more branch offices in the country. The interviewee from this company has a profile of Managing Director and the CRM tool in question is Lemonsoft.

Table 2: The interviewee profile in the SME cluster

Cases	Industry of the Firm	Interviewee Profile	Interview Duration	CRM Tool/s Used
Company A	Meat processing	Finance and quality manager	52 mins	Pipedrive Hubspot Vismanova
Company B	Computer software	CEO	17 mins	Hubspot LinkedIn sales navigator
Company C	Education and training services	Account manager	32 mins	Sugar
Company D	Real-estate consultancy	Managing director	42 mins	Lemonsoft

Company E	Office supplies, Audio-visual solutions	Partner and sales manager	65 mins	Pipedrive

4.1.1 CRM practices and trends in SME's

To understand the CRM practices of the case companies it is important to understand the business processes that are influenced by it. Kulpa (2017) characterized CRM as an amalgam of all the *activities, strategies, and technologies* that businesses use to manage their customer related interactions. Therefore, processes that could be relevant here are, for example: what touchpoints these companies have with their customers, the ways in which they collect and store customer data, the marketing channels, the general employee facility with technology and so on.

Most of the case companies in this cluster have shown a strong reliance on traditional marketing channels to interact with customers. The traditional channels identified for this cluster are- print ad placements, direct interaction with the customers via salespeople and branch offices and collecting feedback through virtual or face to face meeting with the customers.

''We have been using traditional marketing channels like branch offices, fares, papers, and magazines […] we are also using traditional sales and we visit our customers.'' (Company A, Meat processing)

''Social media is a part of it. But, of course also direct marketing. We call people and arrange meetings. In the next month we have a building fair […] and some times in papers.'' (Company D, Real estate consultancy)

However, all the companies in question also recognized the rising importance of digital means to reach customers, and the level of their activity in the digital space is revealed to be dependent on the industry and the level of the inhouse technological competency. The least active of the cohort is the company offering services to the public sector.

''We are selling to the public sector […] the business is not B2B. The area where we are working is very people oriented. You have to be very active, like meeting face to face with your customers. My customers are not for example on LinkedIn. So, we would not benefit anything from the marketing in LinkedIn. They are not there.'' (Company C, Education and training services)

It surfaced from the interviews that a relevant factor for the CRM adoption in the companies is related to the nature of the customers it is serving: B2B or B2C. On a first look it might appear that the more B2C a company gets, a clear emphasis on the digital tools is placed to reach, connect, and gather information about the current and future customers.

One relevant example in this regard could be the case company from the meat processing industry since it has operations facing both ends. It appeared that for the B2B activities the firm relies on traditional tools primarily focused on sales. In this instance the two prominent CRM features used are sales documentation to ensure continuity as well as storing customer data, particularly to be able to derive the historical sales figures. As the company moves to a more consumer space it aims much larger marketing campaigns and wants to align consumer opinion with product development. As a result, the CRM functionalities needed here becomes more and more niche and requires a tool that is capable of tracking, analyzing, and aggregating data from digital channels, such as websites or social media. Hubspot is a popular option in this regard.

''Through Hubspot (CRM) we stored the information of what webpages our customers are checking out […] to find out what products they are interested in. Also, from existing customers we store data such as, what products they bought, and how much they bought, and the historical sales data.'' (Company A, Meat processing)

On the other hand, a fellow case from this cluster is a software development firm operating in the B2B sector. Being a B2B business does not deter the firm from using all the technological gimmicks possible to locate and reach new customers; unsurprisingly perhaps, because of the industry characteristics. The company develops efficiency boosting software for large retail chains and license them as a service. As such it is constantly gathering, collecting, and analyzing customer related data. The sales process in this company is meticulously crafted together with marketing automation and as a result the CRM tools used are particularly specialized in operational (i.e. marketing, sales, and service) and analytical (identifying trends and data mining) efficiency.

''Through the tools basically we try to identify the decision makers. We double it down based on their job titles who might be our potential clients […] let's say someone with a job title CFO works in a company (and) we collect their email, first name, last name, phone number, basically every piece of info that helps the salesperson in the process.'' (Company B, SaaS provider)

Therefore, it is safer to say that more than the form of transaction - B2B or B2C - the dynamics of the industry plays a more prominent role in providing the imperatives for the CRM adoption. While public sector in this matter offers the least imperative:

''I have to be doing a lot reading on politics and analyzing the trends to see what can we sell to the public sector […] I understand that when you are selling B2C or straight to B2B sector then the CRM tools needs to be more developed.'' (Company C, Education and training services)

One important point here regarding marketing and sales integration, as articulated by a certain case, that despite the technological possibilities, it is people who are at the center of these operations. And, if the people or teams involved in this integration process aren't on the same page, then even the sharpest CRM technology might not be enough.

''Process is more important that the tools! No matter how expensive tools you bring, there must be a process in place that will make the marketing and sales team work together.'' (Company E, Office supplies)

When it comes to storing customer data, the case companies showed a strong favor towards storing it inside the CRM tool and exporting it outside is considered inefficient. Only one company stores its customer data in Excel, while a second firm does so only occasionally. In general, for the SME's the storage facility of the CRM and the option to access to information such as historical sales have emerged as prominent features. When it comes to KPI's, the firms have favored strongly towards the financial health of their operations, especially in terms of gross margin, net profit, sales to B2B and B2C, and individual employee sales. Among the non-financial KPI's, sales and marketing leads stood out as most prominent.

''We have KPI's about what kind of services our customers buy the most, how good business different services are and so on. In the same time we also see how much we are selling B2B and B2C (and) collect data about how much sales our different employees has.'' (Company D, Real estate consultancy)

''There's dashboard over there (in the CRM) and create your own KPI's but we don't use that many options. It is mostly used to extract the data to Excel and create need based reports. The most important things for us is the turnover and the gross margin, and net profit.'' (Company A, Meat processing)

4.1.2 Sensemaking in SME's

CRM systems have appeared to influence the sensemaking capacities of the managers and the firms in varying ways. A theme that appears quite outright in the interviews is the importance of the rearview performance mirror. The most prominent feature from these functionalities is the option to view historical sales. Depending on the industry and the capability of the CRM tool in use, the companies can dig deeper into sales trends and market characteristics. This need to use CRM data and analysis capabilities emerged as a near universal trait among the firms.

''With Visma (an ERP tool with features overlapping with CRM) the most important is to find out the historical sales data and to know what directions are we going and how we are doing in

relation to the budget. That's more like a back-mirror, something that gives you perspective about how you performed back in time.'' (Company A, Meat processing)

''And then of course for the management I think it's super important that they can forcast the business in the coming year and you can react fast if there is something that is not getting to target.'' (Company C, Education and training services)

Another important sensemaking theme that emerged in this cluster is the need for the ability to comprehend the big picture. Not surprisingly perhaps, the more stretched a company's operational reach becomes the more important is this overview functionality. For example, the real estate consultancy company of this cluster might have less than 10 employees in its roaster, but it operates three regional offices in Finland, and it is important for its managing director to get a real time picture of the firm's performance.

''We have for every month how much we have to sell and what's the sum. How much else we have to sell. And, that's the most important sum; I check how much each employee have sold. I see a little bit how much work they have done and what's the situation. That's the most important.'' (Company D, Real estate consultancy)

Another way this is conducted is through using the follow-up option.

''The important thing is that we can follow-up what we sell the most (in the CRM). We can follow up each people how much they sell or how much different products and services they sell. What is the most used (service)? (and) we can follow-up how much goes to a service and is it a good business to do it...We can follow up everything like that. So the follow up is the most important thing for us.'' (Company D, Real estate consultancy)

This apparent need to comprehend the operational processes, as they unfold regularly is more obvious in the next statement. Especially noticeable in the pre-CRM period when the company consisted of only three partners and yet a need for a formal control over the process was felt. The manager in question here is in charge of the running of the firm and the CRM system is his gateway to understanding the firm's everyday health.

''Before we had that program (the CRM) we were only three person at the time. Everyone knew what others were doing but we didn't have any control over it. But now with that program we have easy overview.'' (Company D, Real estate consultancy)

There is a consensus among firms in wanting to see CRM tools as a time saver in decision-making. For example, while talking about the pitfalls of their respective CRM, every manual task was emphasized greatly.

''I really don't like the fact that the value of the deals needs to be added manually (in Pipedrive) or externally in Excel - it adds more time.'' (Company E, Office supplies)

''In terms of B2B leads generation Hubspot does not have the contacts itself. Ideal would be that you go to Hubspot, these are the required personnel, select them, and create email template. Hubspot does have the automation, but they don't have contact data. So you need to collect the data itself and enter it.'' (Company B, SaaS provider)

''I think the most important thing is that Sugar (the CRM) is quite basic and it doesn't take too much time to deal with it. (but) Of course in Sugar too, you have a lot of different tabs that you have to put and fill in when you are filling in your sales. Yeah, so I don't know who will be the one to innovating an Apple CRM!'' (Company C, Education and training services)

It has also emerged that CRM plays a role in facilitating employee transitions. In this cluster it is managers with a direction connection with customers are using CRM, and these tools contain at least part of their knowledge on customers. When a new employee comes into a role, CRM tend to speed-up their understanding of the duties.

''I think the most important thing for a CRM is that it has to be about the customer (data). So if I was to quit or I could not be working anymore that the next salesperson could see what kind of data the customer has and like what kind of person they are contacting…you know, like doctors when they meet patients so you have to have data about the people. And you don't have to begin from the beginning with the patient if someone else takes over.'' (Company C, Education and training services)

Finally, the last theme to emerge in terms of managerial sensemaking from CRM systems is the structure provided by the CRM to organize the customer data. Even when the companies

are in an industry with long sales cycles and a fraction of the actions takes place inside the CRM ecosystem, this organizing feature of CRM tools is appreciated.

''I mean maybe the CRM tool doesn't have much impact on the sales cycle, as it depend on the sales people […] but, what it does, is organize the process. It creates value for the process side.'' (Company B, SaaS provider)

More about the value generated from the data organization application of the CRM systems can be found from the following comment:

''With the system we handle all our deliveries and the follow-ups. So if our customers have bought a product and not content with it, we know that it was from this party and manufactured from this and with this meat. So, that helps us to keep the quality and to identify what has happened if we have a case of bad quality.'' (Company A, Meat processing)

4.1.3 ACAP in SME's

Absorbtive capacity is a firm's ability to value, assimilate, and apply new knowledge to attain business goals (Cohen & Levinthal, 1990). This capacity has two dimensions, that of relating to the individuals of an organization, and the other being the organization itself. In a nutshell, related to CRM, this researcher investigated matters such as application of customer knowledge in short and long-term decision making, the CRM knowledge assimilation process in the firms, and how the firm's value insights garnered with the aid of CRM.

Firstly, when it comes to customer data assimilation within the firm, it appeared that a CRM system plays more of a data sourcing role. Perhaps we are dealing with smaller organizations in this cluster, but it appeared that firms prefer to disseminate intelligence via meetings. Preferably via a weekly meeting.

''We are a pretty small company so the communication (mediums) here is for instance is really basic. We have a weekly meeting where we share all this information. The salespeople extract the interesting information and gives that during the weekly meeting.'' (Company A, Meat processing)

''We usually have weekly meetings based on Pipedrive (information). Our customer data are mostly in Pipedrive and we don't always have them in Excel for example. Since it's a small team we have here, we use that meeting to update each other about our respective tasks.'' (Company E, Office supplies)

The firms quoted here have a small employee base, and this rather personal approach of sharing the customer intelligence is commonplace in the other cases, as well. Even with firms with more than one office premises, this practice can be noticed via digital channels.

Another ACAP feature that could be sought from CRM systems is its impact on the decision-making cycle. It was revealed that this factor is dependent to three factors: the industry characteristics, the agility of the salespeople, and the depth and the breadth of the CRM tool used. For example, the Helsinki based SaaS firm, very proactive in its use of technology and big data, feels that the CRM tool used has a minuscule effect in time saving with the customer centric decisions, sales-cycle decisions being the most prominent of that.

''No, the CRM (Hubspot) isn't the only variable for me. I mean there could be some weight to a good CRM tool but I don't know how much weight I will give that, maybe 1% but most the work in terms of the speed in a sales cycle is in the sales people.'' (Company B, SaaS provider)

Interestingly, the other firm in this cohort with experience of using Hubspot, gave a slightly differing opinion with its impact on the sales cycle, especially with its effect on the early stages of the process.

''From Hubspot, we have got some really interesting customer leads. So, it's more than just data. We have actually reached some high potential customers […] with some of them it already turned into sales.'' (Company A, Meat processing)

The firm especially saw the tool's value in the customer identification process. And particularly well-suited for swift deal-making, giving the firm tactical agility. Although, with large B2B deals, the CRM does not save much time, since the deals are largely dependent on the purchasing cycle of the buyer.

''I would say that the customer identification would be the main goal for us to adapt the tools such as Hubspot. It is really helpful to identify the potential customers […] even though with the bigger customers the sales process can take several years (to come to deal)'' (Company A, Meat processing)

''We get the fact, we get the data out and it's not just guessing. We get the facts so when deciding on prices and so on then it's quite important and that shortens the process.'' (Company D, Real estate consultancy)

Another important CRM feature emerged here is its ability to automate the company-customer communication storing process. The more seamless it is the more attractive the CRM tool becomes to the company. A CEO explains:

''The best thing about it (the CRM tool) is it has log feature. So every email that I send out, every communication that happens with potential customers I am able to log it automatically from my inbox. Then I can also track them when they click on the links and so in the email.'' (Company B, SaaS provider)

Although, the firms commonly use CRM tools as a place to gather customer data; with sensitive data, there is also a bit of reluctance in some firms to store it inside the tool. Two of the firms mentioned that they prefer to store sensitive information such as price calculations in the local server. Another firm maintains their inhouse server to safekeep important information.

''In Lemonsoft (CRM) we have contact information of the customers […] but, the contents, like the products, and the reports are not there. It's on our own server and it's on the cloud.'' (Company D, Real estate consultancy)

4.1.4 Summary of findings in the SME cluster

Broadly, the CRM tools found in this cluster have some similar characteristics— they are used to provide a documentation process for a firm's customer related activities, i.e. sales, marketing, and customer relations. It is also used as a storage place for customer data. With

the more advanced CRM tools, marketing automation is integrated into the sales pipeline, and is providing a unified platform reaching out to the customers.

It was identified that the possibility to analyze historical sales is a massive managerial aid pertaining to whole cluster. Furthermore, CRM's value is also seen in terms of the structure it provides to the sales and marketing processes, enhancing the managerial comprehension of the environment. It can also be seen providing organizational continuity by retaining customer knowledge, especially in storing parts of the important tacit Knowledge.

Table 3: The summary of findings in the SME cluster

Dynamic capability	**CRM ecosystem's influence**	**Identified Cases**		
		Moderate	**Strong**	**Prominent**
Sensemaking	- Making sense of historical performance		E, C	A, D
	- Overview of the business processes	C	B, A	D
	- Facilitating employee transition	A, D	C	E
	- Providing a data-structure	A		B
ACAP	- Automate customer communication storage		A	B
	- CRM's role in knowledge distribution	A, E, B		D
	- Aiding agile decision-making		B	A, D
	- Databank for customer information	A, C	D	B, E

4.2 Introduction to the MNC cluster

Much like the previous cluster, this too consists of five case companies representing a diverse group of industries. Firms also differ in terms of their employee size and geographical reach. However, given the organizational complexity they each represent and with their usage of CRM systems to navigate the environment, the companies in this cluster perhaps faces more challenges of similar nature than in the previous one.

The interviewees from these companies are typically in a senior management role. Other than the everyday usage of the CRM systems it was made sure that they are in a decision-making role, too. As such in three of the cases the interviewees had a more strategic role with their company's data analytics and CRM ventures. And in the remaining two cases, the interviewees were using the CRM at a more functional level, while having a decision-making authority in business development and customer relations activities.

Table 4: The interviewee profile in the MNC cluster

Cases	Industry of the Firm	Interviewee Position	Interview Duration	CRM Tool/s Used
Company F	Abrasive products	Head of portfolio management, BI and analytics	34 mins	Caesar QlikView
Company G	Electrical equipment	Project manager-customer services	33 mins	Salesforce

Company H	Calibration equipment	Marketing systems specialist	51 mins	Dynamics 365 Hubspot
Company I	Global information technology manufacturer	Business developer	45 mins	Dynamics 365 Eloqua
Company J	Telecom	Senior project manager	32 mins	Salesforce

The first case in this cohort is an abrasive manufacturer headquartered in the Finnish city of Vaasa. The company's primary production facilities are located inside Finland, and it is dependent on subsidies across the region for product distribution. With over 1000 employees the company is especially focused on marketing, sales, and customer relations, even in a very manufacturing driven business environment. The principle BI tools used by the company are: Caesar for CRM, Qlickview for portfolio management, and an inhouse ERP tool. However, for the purpose of this research the scope was limited to the CRM and the portfolio management systems. The interviewee from this case is in a senior management profile and among other tasks, is in-charge of establishing a business intelligence framework.

The second case in this cluster is a large multinational firm being run from Switzerland. A technology enterprise, it primarily operates in heavy electric equipment, robotics, and automation. With a heavy presence in Finland, the company employs over 1000 people and with more than 200 million euros yearly turnover in Finland. The interviewee from this case has been involved in the CRM migration process, while switching to Salesforce CRM.

The next company is a manufacturer of calibration equipment. Although the smallest company in the cohort, nonetheless, its facility with CRM systems make it one of the most advanced technology adopters in the cluster. This company employs about 250 people and

have a global customer base that are reached by subsidiaries and independent contractors. The company uses two CRM tools: Hubspot for marketing automation and Dynamics 365 for sales and customer related tasks. The interviewee from this case is a veteran marketing systems specialist who is also the lead user of the marketing automation tool.

The next company is a global information technology manufacturer and distributor. An US-based corporation, the firm does have an operational presence in Finland. The interviewee here is in a business development role and the CRM tool in question is Dynamics 365.

Finally, the last case from this cluster is a Swedish telecom provider with a substantial presence in the Nordic markets. It provides mobile networks, internet services, fixed-line communications, as well as does IT hosting. For this thesis, the researcher interviewed a senior project manager in charge of the CRM system implementation in the Finnish brunch of the company. The tool used over here is Salesforce.

4.2.1 CRM practices in MNC's

The first observation from this cluster is that the companies are using advanced CRM applications, that has more usually more than one role, e.g. collaborative, analytical, and operational. It is observed that there are some overlapping of CRM tools with the previous cluster, but, although it could be the same CRM vendor, the capability and scope of these programs differs quite distinctly.

Broadly, it can be said that the larger the scope of the CRM systems, the more complex the firm's organizational processes are. As such a first challenge that the companies face is translating all its processes into the CRM system.

For example, some of these companies have production processes spanning multiple countries, sales channels across continents, a multitude of suppliers, distributors, and partners

involved in taking the products to the end customer; afterwards, comes the quest to collect feedback from customers and communicating them to the relevant departments.

As mentioned earlier, there are three major types of CRM systems- the operational, the collaborative, and the analytical (Kulpa, 2017). The companies here showed to be using all three of these functionalities to varying extent. However, what is common in perhaps all the cases is the collaborative CRM applications. This feature has a prominent need to firms with longer sales cycles.

''We are using globally the same CRM systems. The nice thing about CRM is that all the users are basically able to see the interaction that other people are engaging in […] it's enabling us to share information that we have collected. So that everyone can be one the same page.'' (Company H, Calibration equipment)

''The principle is that everybody would use the same CRM and that's been the goal of bringing Salesforce (CRM) over here. We are a big organization and all the processes and systems needs to be in one place. The goal has been to use the same.'' (Company G, Electrical equipment)

''In my previous role I was using Pipedrive (CRM) a lot. One good thing is that when you have big global accounts that have subsidiaries in many countries, it's really good that you can follow up. Because I was responsible for a specific geographic region and I could easily see what my colleagues for instance in the UK were doing.'' (Company F, Abrasive products)

The last example especially brings to the fore the crucial role the CRM systems play in bridging the communication gap in diverse and dispersed organizations. The tools mentioned in the above statements are: Pipedive, Salesforce, Hubspot, and Dynamic 365. It is noteworthy that in this list two are among the globally biggest players of the CRM market: Salesforce, and Dynamics 365, while the rest have their notable market share as well. While the two big players offer services across all the 3 CRM categories, the rest have their own specialty capabilities. For example, Pipedrive is known for its easy to use interface and highly visual data presentation and is used to facilitate inter-firm collaboration (Shahane, 2018).

When it comes to customer touch points, the companies used a variety of channels to reach out and be available for the customers. Naturally, the customer base is very segmented here, so are the processes to reach out to them. To understand the role of CRM here the study has simplified the processes into sales and marketing, meaning how the employees of these departments are reaching out to the customers.

In this regard, some of the firms does take a more active role in creating relationships with the customers, exploring multiple channels, and in the process creating labyrinthine business operations. For example:

''What I think is quite unique for our company in this business, abrasives, is that we have quite a big sales force. Also a substantial part of our sales are coming from distributors. We sell to distributors, then they sell to end customers. Then we are also exploring new online channels, Amazon for instance and we are also looking at setting up our own distribution channel online. Own webstore, basically.'' (Company F, Abrasive products)

''If I think about the marketing part then we are quite active in the different digital channels […] then from our offline part, we have our sales network. We have about 60 to 80 distributors worldwide. We also have 4 subsidiaries, one in UK, Germany, and France and we have also branch offices in UAE. The distributors are quite important. We sell mostly through them.'' (Company H, Calibration equipment)

In terms of collecting customer data, the process typically starts early in the customer lifecycle:

''So we start really early in the customer lifecycle when they are visiting our website […] We are also checking what kind of products they are interested in and we are also utilizing that data for marketing.'' (Company H, Calibration equipment)

The cases in this cluster are capable of collecting a large amount of data. Since a big portion of the customer lifecycle is being documented in the CRM and in other big data applications, the companies sometimes find it hard to align all these processes into one cohesive roadmap:

''If you think about that marketing goals compared to sales goals, they are sometimes a bit different. Marketing might be interested in getting blog subscribers who will maybe at some point

become our customers, or they might become our brand evangelist […] whereas the salespeople are more interested in acquiring more sales or getting new customers.'' (Company H, Calibration equipment)

A lack of communication is observed here adding to the gulf between marketing and sales. In CRM terms, this division is manifested through their attitude towards sales lead qualification, and has emerged across industries:

''Let's say that we have a sales lead and this one is automatically sent to the distributor. So we are trying to share a lot of information that we think might be useful for salespeople. Then the problem is that when we would need to get feedback if we are finding the right people with our marketing initiatives for sales, it's often hard.'' (Company H, Calibration equipment)

''There's a disconnect between the marketing and sales in the sense that we don't have lead scoring or lead qualification. So if you have that process in place, the lead scoring and lead qualification, you will be able to convert those opportunities to customers.'' (Company J, Telecom)

4.2.2 Sensemaking in MNC's

The ability to have a 360-degree view in a matter of clicks has emerged across the cases to be one of the most important aspects of CRM systems. Managers are occupied with busy routines and to have the necessary information at their fingertips is of paramount benefit.

''I think the biggest benefit would be the fact that I'm up to date with my customers but at the same time I also know that I can plan, I can see that how many new customers I have who I should contact and then I also see the old ones like which aren't moving. It provides kind of holistic overview all the time and you understand what you need to focus on.'' (Company I, Global information technology manufacturer)

''I get detailed and gradual report but we can also get the big picture so it's quite easy and intuitive in my opinion so you can see long term trends over the whole product family or you can make short snapshots of the latest month's sales, like for one individual or a product sub-segment.'' (Company F, Abrasive products)

Organizational connectivity is another fundamental feature that is aiding in the sensemaking process. It emerged that the cloud computing enabled CRM systems are particularly apt in this regard because it promotes the ability to remain informed about each other's tasks and to collaborate across the organization.

''Salesforce (CRM) is based on cloud computing. So the data is available for every user through different channels and means […] sales teams are always connected and they have all the current information on the customers. They also have information related to existing products, so they can either renew the products or upscale new product to the customers.'' (Company J, Telecom)

''When you have big global accounts with several sales people working against the same account but targeting the different subsidiaries, you can get the latest information from the latest discussions globally from one interface.'' (Company F, Abrasive products)

It is particularly handy during employee transitory roles.

''Because when I joined there were already some contacts for the markets that I was to work with. And if we didn't have a way to keep those contacts, we wouldn't have ever contacted them. So of course, in this case it's worked like a data bank for me.'' (Company I, Global information technology manufacturer)

CRM systems can collect a range of data, all with the aim to enhance the management's understanding of the customers and the environment that influences them. An example of this process can be found with the following statement--

''The first time someone submits a form to us then this person is identified by the marketing automation tool (CRM). And after that we are able to see what they are doing on our website. We can also see what other calibrators they are interested in or if they were also interested in calibration software, so it kind of gives better transparency to what the prospect is doing or might be interested in.'' (Company H, Calibration equipment)

Marketing automation has a prominent place in the CRM ecosystem. However, a challenge also emerged here concerning its integration, especially if the marketing automation tool is not easily compatible with the principal CRM tool. Although the larger CRM vendors all

have marketing automation features that can be bought as a package deal, however, firms sometimes prefer niche marketing automation capabilities and opt for an external option. The most prominent player in this regard is the US based firm Hubspot Inc., and its integration in the CRM ecosystem is not readily available. Any mismatch here creates a large amount of manual work.

''These two systems (Hubspot and the CRM) are not integrated which means that the data we have in marketing automation is not automatically shared with the users of Dynamics CRM and vice-versa. So that's a lot of manual work to be able to do that.'' (Company H, Calibration equipment)

''The integration between marketing and CRM integration is something that will grow in the future. But, also horizontal integration among different CRM systems, too. There's not a clear match between the tools, so that can be quite tedious and labor intensive to get it done, but, is necessary in the long term.'' (Company F, Abrasive products)

This dread of manual work is not only confined to the integration of tools in the CRM ecosystem. It can manifest in various forms and is a hindrance towards reaching the full sensemaking potential.

''This logs and reports (in the CRM) is very repetitive task that you have to manually perform.'' (Company F, Abrasive products)

''There's quite a lot of fields that we need to fill in and it takes quite a lot of time if you want to go through all of them carefully […] and, then also maybe you might not always know why this information is important.'' (Company H, Calibration equipment)

''The salespeople are more involved in selling and they don't want to fill out the forms. But, since it's part of the process and it's a mandatory thing, they have to essentially put in the data'' (Company J, Telecom)

It has appeared that the CRM tools can often be perceived as being too heavy by requiring many fields of information to be filled from each customer interaction. Interestingly, a pattern emerged that the more sales or customer focused one's job is, the more this aversion to

logging data manually in the CRM becomes. While on the other hand, managers on the back offices have a more tolerant opinion of the data fields in the CRM.

In terms of the CRM agility, the firms in this cluster have mixed opinions. The companies here have standardized sales and marketing processes which is reflected in the CRM tools as well. Although, the larger firms in this cluster have all conducted substantial research and homework before implementing these tools, not all the different departments feel the same contentment with their particular role in the system. The bigger frustration however is not that of their role in the CRM pipeline but that any change to it is a long process.

And, when the momentum for a change becomes strong enough and the process is initiated, it must go through a couple of echelons before the change being implemented.

''It's a big company and everybody uses the same functions and same tools so it can be rigid in that sense.'' (Company G, Electrical equipment)

''As we are a big multinational the biggest pain point is that it's not always modifiable for your needs. If I want to have a change for example, in the process how it works is to go through quite many levels.'' (Company I, Global information technology manufacturer)

Finally, the companies are also employing data analysis applications to identify patterns from the collected customer data. And, it is not only visible with the more sophisticated and expensive CRM tools, such as Salesforce, Dynamics 365, but also from tools niche tools with more function-oriented capabilities.

''QlikView (a portfolio management tool) is really essential for identifying short term challenges like if some products are not selling as it should or the margin levels are not where it should be […], I'm also starting to do more of a long-term trending and see what are the strategic products and the top sellers what is long term development and what are the trends.'' (Company F, Abrasive products)

''You get a lot of information via reports and dashboards. We can do trend analysis month on month. You can see the number of orders which has been placed every month. The growth quarter on quarter'' (Company J, Telecom)

4.2.3 ACAP in MNC's

As mentioned in chapter 3.1.3, in terms of absorbtive capacities (ACAP) this thesis has considered traits such as the application of customer knowledge in short and long-term decision making, the CRM knowledge assimilation process in the firms, and how the firms value insights garnered with the aid of CRM systems. Also, how managers at the interface of the company and the environment absorb and distribute knowledge.

Since most the companies in this cluster are in the complex B2B business domain, CRM's influence on the sales cycle is not apparent with the time saved. However, the companies did agree, that the tool does help to speed-up things in the beginning and in the closing of a sales cycle. Particularly with the opportunity identification period. The middle part of the sales cycle is typically ridden with negotiations with very little action happening inside the CRM.

''It definitely helped to speed up the hand over from marketing to sales and get the customer into the sales-ready phase if you will […], it did fast-track the beginning of it.'' (Company F, Abrasive products)

''It helps mostly in the beginning and the end. To kind of suggest new products and picking orders I mean closing orders, that helps. The middle period is more of negotiations and discussions, which is the longest and where CRM has a limited role to play.'' (Company J, Telecom)

Even though the CRM has a limited impact on the sales cycle in terms of time, but it appeared to be aiding in a more agile decision-making:

''We see that the percent of our leads are from this or that industry. So then we just send or make a mass campaign for them instead of focusing on an industry that only has a few companies in our

CRM. In the end, yes, it has made even my team's decision-making process faster because it can be more agile.'' (Company I, Global information technology manufacturer)

''This industrial B2B markets for example regarding calibration equipment, the customers usually have quite long buying processes. I think these tools are helping us stay up to date with what's going on. Maybe how the process is going forward these days.'' (Company H, Calibration equipment)

When it comes to turning CRM data into organization wide knowledge, the firms would deploy a variety of tools. In the bigger cases, there are dedicated CRM teams for it, who gather, extract, and communicate this knowledge to the wider organization. Which in turn might be discussed in functional teams. The methods that came up to distribute customer intelligence are: team and departmental presentations, online trainings, newsletters, seminar, intranet, and company blogs. For example:

''They (the CRM team) organize training and then we also have online training and online presentations and we have weekly or bi-weekly newsletter coming from Dynamics towards the users of the program.'' (Company I, Global information technology manufacturer)

An interesting finding for this cluster is the effect of GDPR deep into the company processes. The companies operating in the EU now have an obligation to disclose what kind of customer data they are collecting. The implication of this law has reached the CRM practices, as well. For example, in many CRM tools it is possible to categorize customers and keep individual notes regarding them. With GDPR enacted, companies are still exploring how to best navigate the changed environment and tune CRM accordingly.

''At least in Hubspot (CRM) there's the possibility to add notes about a person so of course you need to be careful what you write here. With the GDPR the customer now has the right to know what kind of data is being stored about them.'' (Company H, Calibration equipment)

4.2.4 Summary of findings in the MNC cluster

In the MNC cluster, the CRM does influence the decision-making capabilities of firms in a number of ways. It has been identified that that CRM helps bridge the communication gap between individuals and departments, store vital customer data, track KPI's, while also help identify short- and long-term trends.

However, despite these benefits, not all the cases see strategic planning benefit form CRM in the same way. As information gathered from such tools, although helpful, could be broad in scope. The probable reason behind this comment could be the type of the CRM tool being used in the firm, where it is more of collaborative nature.

"I think the challenge is to boil it down to something concrete so you can use it for planning. Of course, it's good to have some common understanding of the customer business and how they are doing and where they are looking to expand and what field but I think the big challenge has been to how can you turn it into something concrete actions for your own sales process." (Company F, Abrasive products)

The following table summarizes the main sensemaking and ACAP variables being influenced by the CRM ecosystems and aiding in the decision-making process.

Table 5: The summary of findings in the MNC cluster

Dynamic capability	**CRM ecosystem's influence**	**Presence in the companies**		
		Moderate	**Strong**	**Very strong**
Sensemaking	- Collaboration among individuals and teams		F, I	H, G, J
	- 360-degree overview of the sales and marketing processes		F	I

	- Facilitating employee transition	H	J	I
	- Marketing and sales processes integration	H	J	G, I
	- Pattern and trend identification	I	F	J
ACAP	- Customer intelligence collection	F	G, I, J	H
	- Dissemination of knowledge through CRM	I, H		J
	- Aiding agile decision-making	G	I, H	

4.3 Comparison between MNC and SME cluster

There are both similarities and differences between the way CRM tools are used in both clusters.

Firstly, there are some overlaps between the tools being used among the firms in the two clusters. However, even if they are buying the software from the same vendor, as a general rule, the tools belonging to the larger organizations have a much wider scope and more analytical capabilities.

Secondly, the bigger a business the more people are accessing the CRM at a regular basis and the role of the individual becomes confined to a specific process in the CRM system, and might not have access to the full interface. For example, employees in pre-sales typically deals with lead collection to prepare the ground for sales personnel to make the cold call.

Unless the manager in question is in the CRM steering team or in the upper echelons of the company, it appeared to a be a standard practice.

Thirdly, for large businesses, a sophisticated CRM system is often implemented to reduce complexity by bringing different organizational processes onto a common platform, as well as to bring technological homogeneity throughout the organization. The issue of CRM homogeneity becomes more critical during the merger and accusation processes of firms, as typically the acquired businesses are expected to migrate to the principal company's CRM system. This process of CRM cohesion is not limited to M&A matters only, but also to the upstream and downstream partners. Having partners across the value chain integrated to the CRM have many advantages, and bigger companies are increasingly investing in it. However, it is not to say that there aren't any problems to it. Most prominent of which is the smaller partners' feeling reduced control over own affairs.

On the other hand, the SME's face a very different set of challenges with regards to CRM implementation, both, organizationally and from an individual manager's perspective.
Typically, in SME's there is a continuous push towards simpler processes inside the CRM tool. It should be easy to operate, and the required outputs are to be related to the core business performance. As such, financial data in the CRM tools have a prominent place. Firms are using a blend of collaborative and operational CRM tools. It was revealed, perhaps surprisingly, that the SME's are more open to use multiple CRM/ERP systems, if the business case for it can be justified. The MNC's are more conservative in this regard, primary out of the technological cohesion concerns.

Finally, it was also revealed that any measure of manual work in the CRM is dreaded in both clusters. The MNC's in this regard are more inclined to invest in remedies, to ease the burden on organizational processes. Furthermore, both clusters share an aversion against the complexity of the CRM tools, the lesser the effort managers must invest to get familiarized with a tool, the better its appeal.

5. DISCUSSION

This chapter investigates the research question by answering the two research objectives. The findings and the literature review are compared and followed by the edited theoretical framework.

The research question guiding the thesis:

How the customer data collected through the CRM tools is transformed into organizational capability and systematically used for managerial decision-making?

To answer the research question, the first research objective is as follows:

***RO1**: How customer intelligence is affecting the decision-making capabilities of the firm by complementing its sensemaking and absorptive capacities?*

Neil et al. (2007: 731) observed that any organization facing environmental uncertainty has a fundamental choice to make in the very beginning- either to *absorb the complexity*, or it can simply choose to ignore it to the best of its abilities in favor of the status-quo. Furthermore, organizations choosing to take the harder path of evolving itself with the uncertainty, must develop an 'adaptive system' to navigate the turmoil. This '*adaptive system',* Neil et al. (2007) continues, seeks to address, integrate, and synthesize diverse and potentially conflicting aspects of their environment and consider multiple competing interpretations when formulating responses; and reflecting on the organizational utilities of a CRM system, there is a clear alignment between the two.

CRM systems have shown to complement this '*adaptive system'* both from a sensemaking and ACAP point of view, as it helps managers navigate the organizational uncertainty and establishes a link with the environment.

This can be seen in many of the cases, using a variety of CRM tools and from diverse industry backgrounds, that the desire to stay on top of market patterns and customer trends is a primary reason to employ these tools.

When it comes to absorbing complexity, simplexity emerges as a relevant concept. Simplexity is a state of delicate balance that mediates between companies becoming too simplistic over time by evading complexity versus companies that generates too much complexity and cannot function properly (Calvard, 2016).

Calvard (2016) further argued that sensemaking strives to reduce complexity by emphasizing on a '*vocabulary'* of elements that are attempting to organize themselves in order and the '*grammar'* connecting those elements into a variety of configurations. CRM systems, especially for its ability to provide value for the process side is having an influence here. Other than providing a data-bank, a near universal traits of CRM tools is its ability to provide structure to the collected data, in other words 'grammar' to reduce ambiguity and enhance sensemaking.

An alternative way perceiving simplexity through CRM tools could be that it makes data and information readily accessible to the decision-makers. Commenting on attaining the simplexity state in organizations, Calvard (2012) and Colville et al. (2012) asserted that this is best achieved when organizations have a drive to make processes simpler, understandable, and general to its members, however, this process must acknowledge the dynamic environment the firm operates in. Now reflecting on the way in which CRM ecosystems are designed to collect data, and the relationship between the multiple elements in it are rather complex, and it could be seen as a testament to the environmental complexity. While in the employee interface the goal is to make things simpler and succinct and being able to extract meaning from the data as effortlessly as possible. Therefore, the CRM ecosystem does play a conducive role in achieving this state.

It was inferred from Liautaud (2001) that customer intelligence can help elevate organizational sensemaking from intersubjective to the generic subjective level. Where the process starts with intersubjectivity when the individual self is transformed from "I'' to "We'', and based on that in the generic subjectivity stage, employees can substitute for one another by adopting generic activities and meanings. Findings from the cases indicates there is a clear evidence depicting CRM tools capable of facilitating this process. In particular if we look at the CRM's usefulness with facilitating employee transition, where CRM provides new employees with a standardized structure to familiarize themselves with the organizational processes and internalize much of the customer knowledge, there is a clear elevation from 'I' to 'We'. It was revealed that CRM tools can act as a tacit knowledge reservoir by documenting everyday customer related activities and in the process facilitate organizational members substitute for one another.

The individual relationship between the CRM tools and a manager is very important. If we take the view of Weick (1995) and Simon (1991) that although sensemaking processes are embedded at the organizational level, the learning necessary for it takes place at an individual level. And, we have already discussed how CRM tools are being used to identify and explain trends and patterns both in the company performance, and in the outer environment. More than one manager in this regard have identified anomaly in their business operations through CRM data, and resorted to further into analysis to come up with their interpretation of the causes for the anomaly. The larger the gulf between a manager's orientation and the tool, the harder it becomes to create value out of it.

But, when the two are aligned in scope, CRM fulfils Dizdar & Esen's (2016) criteria of sensemaking that it is an activity that helps individuals interpret the cues from the environment and explain various complex and often, unexpected events and issues.

Sensemaking can also be seen as a process that is retrospective and future oriented at the same time, as it explains the past which then influences individual's current views and leading to actions (Pernu et al. 2015). In this regard, evidence suggests that CRM systems

can act accordingly. If we especially look at SME cluster's ubiquitous dependency on historical sales data as a means to plan future course of actions, this becomes apparent.

Continuing to a more customer centric view of organizational sensemaking, Neil et al. (2007) proposed it to be a capability by which organizations generate the creative and timely marketing strategies associated with enhanced customer-based performance. This can be visible in the CRM ecosystem in two-fold ways: firstly, through the general integration of sales and marketing processes, through which cases have develop more specific marketing strategies based on sharper customer segments; secondly, deploying marketing automation tools companies can have a greater control over the customer lifecycle processes, that starts from identifying the customers, targeting them with relevant marketing contents, lead gathering and qualification, as well as sales and after sales communications.

We know that complex organizations adopt the four strategic dimensions for decision-making: competitor, customer, product, and macroenvironmental (Boulding et al. 1994) and are also capable of differentiating and integrating complex environmental information (Neill et al. 2007). Larger businesses are typically employing CRM systems encompassing all possible features: operational, analytical, and collaborative; the aggregate of this intelligence can influence all four of the dimensions, thorough competitor research, customer data collection, product performance monitoring, and macroenvironmental trend identification, are all possible to conduct through CRM systems. Although rarely does a single company excels on all four, as their priorities vary according to their technological and organizational competency.

With regards to CRM's ability to store tacit knowledge organizations of all sizes face one common challenge that is with knowledge articulation. This is apparent primarily in the reluctance of the managers to manually put data into the CRM tool. It has emerged that in all the cases there are varying challenges in this regard, motivating especially the customer facing employees to be more diligent with their CRM inputs. In one case, the challenge was to encourage employees to log in the data of all their customer interactions, not just the one

leading to sales. This is symmetrical to the proposition that only a small fraction of the articulable knowledge is actually documented, and organizations vary greatly in their ability in this regard (Winter, 1987; Cowan et al. 2000; Zollo & Winter, 2007).

Another challenge to the implementation of an efficient CRM system can be viewed through the prism of interdisciplinarity**.** Interdisciplinarity occurs when two or more disparate disciplines, bodies of knowledge, or modes of thinking comes together to produce a meaning, explanation, or product that is more extensive and powerful than its constituent parts (Siedlok & Hibbert, 2014). As the different ideas, processes, and expertise joins hand to put together a unified system, it often creates organizational tension during the process and with the end product. Naturally, the bigger an organization is, the bigger the possibility for this tension. Although, smaller businesses are not totally exempt from this challenge totally. One very relevant example in this regard is the difference between the engineering and business perspective towards CRM. While technical departments at a company have shown to be inclined towards a data driven analytical CRM, the business centric departments', such as sales or marketing are often discontent with the arrangement an analytical CRM may lead to, namely, filling out numerous data fields in the CRM interface.

As such the research also found evidence for the Argyris (1976) assertion that organizational actors bring their disciplinary backgrounds with regards to how BI resources should be managed, how to convert inputs into outputs, and especially how knowledge should shape further rounds of actions and decisions. The managers showed a visible tension to make the CRM tools appear - *compliant, competent, decisive, and diplomatic*- according to their disciplinary orientations.

Also, the larger an organization is, the stronger its drive towards CRM homogeneity. It is indeed an effortful task to '*tune the organizational culture towards a more knowledge articulation friendly one'* (Zollo & Winter, 2007: 344), but as the literature also predicts, once it is implemented it produces an improved understanding of the action-performance linkages and helps modify the existing sets of routines as well as a deeper recognition of the

variables for fundamental change. Two large MNC's from the cases have gone though great pains to implement a unified CRM tool and continuously working to make it accessible to all the organizational stakeholders.

Moving on to ACAP, Cohen & Levinthal (1990) argues that ACAP plays a vital role in enhancing the innovative capabilities of an organization. In this regard CRM can indeed shore up innovative capacities of managers. One relevant CRM application is its ability to guide managers to customer insights, which in turn unleashes innovation possibilities in products, services, or processes. From this perspective, CRM's role in competitive advantage also supports Zahra & George's (2002) view that firms with well-developed capabilities of knowledge transformation and exploration are more likely to achieve a competitive advantage through innovation and product development than those without it. The more far reaching a CRM system is and the more synced it is with the organizational processes the more chances are there of its use in innovation activities.

An important feature of ACAP is its dependency on the individuals standing at the interface of the firm and the external environment, or at the interface between subunits of the firm (Cohen & Levinthal, 1990). Wal et al. (2011) further elaborated this concept by adding that at a fundamental level ACAP of a firm is dependent on its members to identify external knowledge, align it with the organizational capabilities, and facilitate its utilization within the organization. In this role the individuals act as a conduit between environments. In the CRM context, we saw a collective emergence of this role in the organizations. For most of the case companies, it is typically the employees in the customer focused roles such as marketing and sales who facilitate this. In larger companies there can be teams devoted only for CRM maintenance and monitoring that stands in between environments. The CRM ecosystem can be seen as one form of interface, facilitating osmosis between the environment and the firm.

Zahra & George (2002) have argued that ACAP exists as two subsets of capacities- potential and realized. These two categories in turn have four components that constitutes ACAP.

Potential ACAP is comprised of knowledge acquisition, and assimilation capacities. Whereas, Realized ACAP consists of knowledge transformation, and exploitation. Both categories are necessary to reap the full benefits of ACAP, and Zahra & George (2002) stresses on a symbiosis between the two.

With Potential ACAP, CRM plays a prominent role in the customer knowledge acquisition processes of the firm. The capability and the mechanics in this regard varies greatly from tool to tool, but the CRM tools must have a minimum capability in this regard. As the sophistication level goes up among the tools the more automated this process becomes, while the smaller firms are often dependent on the CRM tools with manual data entry. With data assimilation, CRM tools play a varied role. As it appeared from both clusters, CRM plays a visible role in assimilating the data across the firms primarily by the means of real-time communication among managers. And, even when the data assimilation takes place outside of the CRM tool, oftentimes, it acts as a knowledge-reservoir.

Regarding Realized ACAP, CRM tools can have an influence on knowledge transformation. Again, CRM is not only limited to a databank, and, it can also act as an interface helping the managers transform the way knowledge is gathered, analyzed, and distributed throughout the organization. Finally, the more top notch a CRM tool is more capable it is to identify trends and patterns from the data and provides managers better grip over the knowledge exploitation possibilities.

A firm's ACAP, according to Minbaeva et al.'s (2013) is largely a function of its individual member's ACAP; and the efforts to absorb information among individuals varies in-terms of their ability, motivation, and the way in which they exploit the opportunities to share knowledge in the organization. From this perspective, a challenge emerges with CRM tools' user friendliness, as, it emerged from multiple cases that CRM has a tendency to get very heavy for the manger's taste. If the difficulty level of the CRM tool is above the average technological competency of the customer focused departments, it can create an impediment to the ACAP of an organization.

Furthermore, the heavier it gets the less motivated a manager is using the CRM tool in its fullest capacity. And, if such situation persists long enough, then this may turn into an organizational sub-culture. For example, in a certain case company the digital marketing team has a higher concentration of analytical minded employees in charge of the marketing automation tool. Much to the frustration of this team, their counterparts in the sales department is not very keen on filling out all the CRM data-fields, and it surfaced that the two teams have different ideas on the role of a CRM system. This validates Baldwin et al. (1991) observation that without proper motivation even individuals with a high ability to learn will struggle to absorb new knowledge. One the other hand, the more successful firms in this regard have been able to create both extrinsic and intrinsic motivation for CRM usage. The common tactics used here: having transparency in the CRM adoption process by involving multiple stakeholders, communicating the relationship between the CRM data input and the results garnered, making the interface more user friendly, and investing on increased level of automation in the CRM data collection process.

RO 2: *How the CRM derived customer knowledge is used for managerial decision-making*?

Mouzas et al. (2008) proposed that a manger's ability to successfully discern the developments in their business network and their ability to mobilize resources accordingly increases the organization's competitiveness; CRM's aid in agile decision-making as well as in its use of collaborative activities helps managers to read and comprehend their environmental developments faster and more efficiently, leading to mobilizing resources in a more informed fashion.

Douglas (2016) defined customer intelligence as the holistic and flexible understanding of customers that comes from gathering, contextualizing, and analyzing data. While in Kelly (2005) we find customer intelligence to be the knowledge that an organization has concerning the likely future intentions of its customers- current or prospective. From this perspective we can see a clear correlation of what CRM tools does for companies, as it provides an interface

that can collect data, either automated or by manual means or both, store them, and provide analysis capabilities to help guide decisions.

However, we do take into account from Ellis & Hopkinson (2010) and Möller (2010) that managerial actions are not necessarily an objective view of the environment but rather the environment as individuals understand it to be. As such it is important to mention that although CRM systems can provide a richer understanding of the variables for decision-making, these systems are merely a conduit to the act of decision-making, and the final call remains a subjective matter.

We can find a symmetry in the case companies with Sharma's (2014) proposed three-step journey from BI to value - data to insight, insight to decision, and decision to value adding – with the use of CRM. As mentioned, much like any BI system, CRM tools too can lead to a better decision, resulting in a clear sense of added value to the business side. For example, a large case company has integrated the industry research with the CRM tool to decide on more targeted campaigns for specific customer segments and as a result has seen a clear uptake in customer adoption. From this point of view, e found further credence towards Stein et al. (2013) proposition that by consistently applying CRM data for managerial decision-making it is possible to transform a firm's value creation process, starting from initial customer prospecting and continuing all the way through contract renewal negotiations.

Stein et al. (2013) further posited that the CRM record perhaps offers the most comprehensive information source to the managers in improving trust and commitment while dealing with the customers, in enhancing the firm's responsiveness to customer woes, in deciding on actions reducing customer defections, as well as in reducing marketing related costs. In this research we looked into all of these claims and found varying evidence concerning each of the propositions

Firstly, when it comes to improving trust and commitment with dealing with the customers, the case companies hold mixed results. It might help managers with quality management, as

we have seen in a SME firm, where quality control is integrated with the CRM ecosystem. Furthermore, in most cases, the companies store historical customer feedback in the system, allowing them to conduct trend analysis and notice any glitches in the service, providing managers with decision-support with customer trust and commitment matters.

Secondly, the CRM could have a clear impact on improving the responsiveness of the customer woes. As different processes are integrated with the CRM, if a customer comes to the firm with multiple queries, a service representative will have a 360-degree view of the services, enabling him to offer a one-stop solution. Furthermore, it is also feasible that the feedback from the customer will reach the relevant team in product development or sales management in real time, orchestrating better services for the customer.

Thirdly, continuing from the previous point, the application of the CRM tools can also be extended to reduce customer defection. A certain case company was able to notice a decreasing sales pattern by a major industrial customer through CRM records and subsequently was able to identify the reason behind this. The situation was rectified, and the business resumed to normal. Thus, the data here also supports Peppers & Rogers's (1993) claim that the knowledge gathered through CRM data enables managers to have a holistic view on why customers stay and why they leave. In this regard, customer intelligence through CRM tools does help companies gathering customer insights, trends, and patterns.

However, with the fourth and final proposal of Stein et al. (2013) regarding lowering of marketing related costs through CRM records remains unclear from the interviews. Though marketing and sales integration is a growing trend, its impact on cost saving was not readily agreed by the case companies. Though there were a consensus among the firms that an efficient integration between to the two could lead to increased revenues.

In the research, we have also found evidence of the discoordination among the various customer focused departments in an organization, as observed by Liautaud et al. (2001). Evident especially with the lack of alignment between marketing and sales teams is noticeable. CRM systems, as it turns out, reflects the health of the existing departmental

coordination of the organization. Where even expensive and elaborate systems are unable to fill the gap, if the marketing and sales teams do not share a similar CRM vision.

Another important feature that CRM enables managers to do is to determine the directionality of negotiations with the customers, as predicted by Stein et al. (2013). He observed that through customer intelligence, managers can be cognizant of the development of negotiations in real time, not just with the customer but with different parties involved with it. We can see its direct application in the collaboration feature of the CRM tools. This is an application that case companies of all sizes use regularly, but, especially the larger ones, where the different parties are dispersed geographically, and multiple actors are involved in the same negation process. Especially evident in the following statement:

''[…] like what kind of negotiations they were having with their English counterpart while I was dealing with the Japanese counterpart. It's really good because customers are also talking internally and having internal discussions so having the ability to see those in the system makes it easy to align and keep yourself up to date''

If we further look for CRM's direct contribution to decision-making, then two principal themes emerge, that of CRM's impact on short-term tactical decisions, and that of long-term strategic planning. To facilitate tactical decisions, CRM tools can help identify sales anomalies and push management to quicker and more informed decisions. For long-term decisions, the ability to identify customer segments and get a deeper understanding of their profitability is something that creates much value.

Extended Theoretical Framework

Based on the above discussions the following framework depicts the way the different elements in the theoretical model is affected. The initial dimensions have been altered to accommodate the aggregated findings. As such, the first dimension integrates data collection in its midst from only 'Information Processing', as CRM tools have emerged as a prominent collector and storing place for customer data. The second dimension narrows its focus further into value creation after investigating CRM's role in sensemaking and ACAP capabilities, and how they are both helping in the organizational and managerial learning. The last dimension of this model, 'Informed Decisions', evolved to accommodate a broader array of decision-making functionalities, not just remaining a customer intelligence receiving point. This has been expressed with the term 'Decision Making'.

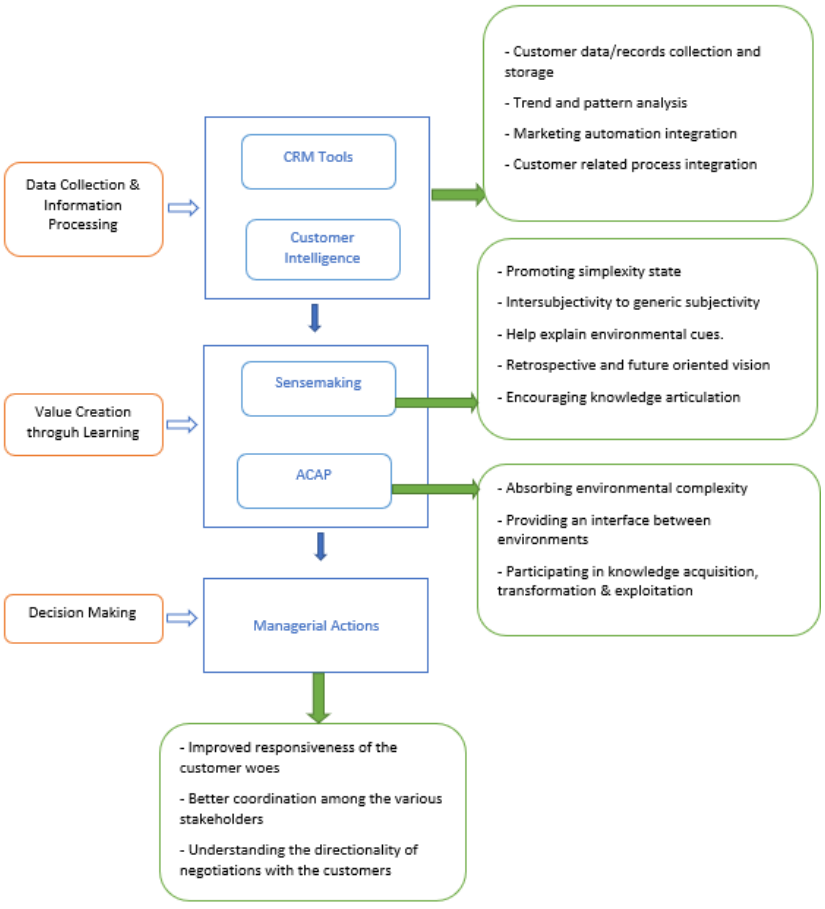

Figure 7: Extended theoretical framework

6. CONCLUSION

6.1 Theoretical implications

As alluded to in the literature review, customer intelligence is a promising but nascent field of study that has only started to claim its place in the BI literature. The first theoretical contribution of this thesis is observing the operational nature and the decision-making value generated from customer intelligence as an independent phenomenon. While the BI literature was kept in the background and was resorted to for direction, this thesis will give future studies a starting point to the subject of customer intelligence. Speaking of BI literature, this study found customer intelligence to be symmetrical with Ghoshal & Kim's (1986) proclamation that BI is a managerial philosophy fixated on getting the right information to the right people at the right time. Furthermore, when it comes to the journey from data to value, customer intelligence was seen to make a similar journey as the aggregated business intelligence -- data to insight, insight to decision, and decision to value (cf. Sharma, et al, 2014: 435-437).

When we zoom into the niche of CRM enabled decision-making, the scarcity of academic literature becomes even more noticeable. Thus, the second and most important theoretical contribution of this thesis is considering and establishing a link between the value generated from the CRM ecosystem with the dynamic capabilities of a firm (cf. Maklan & Knox, 2008; Liautaud, 2001: 139). Although, the study considers parts of the dynamic capabilities into account – sensemaking and ACAP – nonetheless, a detailed link has been established.

Regarding a firm's sensemaking capabilities, firstly, it was noticed how the simplexity state could be facilitated and nurtured through a well-integrated CRM ecosystem. It appeared that CRM systems can especially act as an 'adaptive system' and strike a fine balance between learning and sensemaking, ushering in an acceptable '*simplexity equilibrium'.* (cf. Calvard, 2016)

Secondly, facilitating organizational sensemaking, the study saw evidence of CRM bridging the gap between intersubjectivity and generic subjectivity (cf. Wiley, 1988). The most prominent example being observed during employee transitions. However, the study also saw visible resistance against the more collective form of organizational sensemaking in the forms of individual habits, echelons, organizational politics and so forth. And, the stride towards the highest phase of Wiley's (1988) organizational sensemaking *extra subjective* - where the generic self is replaced by 'pure meanings' – faces significant resistance.

With regards to ACAP, firstly, CRM systems are seen to be relevant to the both type of ACAP: potential and realized (cf. Zahra & George, 2002). Especially observed in CRM's role in the analysis, segmentation, and distribution of data across the firm and as such it shores up the learning processes of a firm. Accordingly, this study provides further credence to Collins (1994) that systematic learning processes are second-tier dynamic capabilities themselves.

Secondly, the study documented direct utilization of customer intelligence from CRM tools in commercial ends, establishing a link with Wal et al.'s (2011) notion of individual ACAP through individual effort. Furthermore, the study also identified the prominence of the individual ACAP drivers vis-à-vis Minbeva et al. (2013) that occurs in individual CRM adoption: where motivation to use CRM tools acts as the chief catalyst, followed by technological comfort level. The third driver, the ability to share knowledge across the organization only acts nominally in this context.

Thirdly, the study did not find any noteworthy evidence on the emergence of 'individual gatekeepers' in customer intelligence sharing, even though the conditions for it seemed rather well-suited in this context (cf. Cohen & Levinthal, 1990). The reason for it could be, that instead of specific individuals assuming this role, the customer focused teams collectively act as 'gatekeepers' and transmits knowledge to the organization.

In summary, the thesis establishes a link between CRM derived values and dynamic capacities. Starting with Stein et al. (2013) proposition that the consistent application of CRM data for managerial decision-making transforms a firm's value creation process, the contribution of this study is showing the mechanisms by which this value is being generated in a decision-making context. Most prominently this is through providing a historical context for agile decisions, providing managers with knowledge about negotiation directionality with the customers, and strategic insights on the customer lifecycle.

6.2 Managerial implications

This thesis explored the ways in which CRM influences the managerial decision-making. It has developed two distinct sets of influences relevant to businesses of different size and scope. This provides managers a snapshot of how CRM tools are likely to influence their operations. These findings can guide managers adopting to a new CRM tool or even during the selection of a platform for the first time.

Regarding CRM adoption among the employees, the study identifies a lack of motivation as the predominant driver behind not embracing it fully, ahead of a lack of IT savviness, and the drive to share knowledge across the organization. Zooming in more, the thesis identified a general tendency of CRM being perceived too heavy, while for larger firms, where rank and file employees are typically operating a specific part of the tool, also, not seeing the bigger picture emerged as a principal reason for losing motivation.

The study also identifies the integration between different decision-making tools to be an important subject matter for the managers. Even in smaller firms' managers tend to use multiple decision support systems to navigate through the muddy waters, and the state of integration between them can be precarious. When tools are not fully integrated, it results in inefficiency and in the worst-case scenario- much manual work. This study recommends investment in CRM platforms capable of integrating a broad range of systems and processes

into it and still maintain a level of interface homogeneity. This is especially relevant for organizations with complex management chains, with up and down stream partners, and with a big enough subsidiary base. Initial investments can be high, but in the long run, it will save managers from much headache.

For larger firms, the thesis also recommends reducing the echelons that a CRM-related feedback passes through. Larger organizations with rigid CRM processes can slow departments down, and a lengthy process needed to initiate change surfaced as a bottleneck.

Finally, it is recommended for managers to keep this notion in mind, that at the end of the day, it is people who will be at the operating end of these tools, and without an alignment of processes, even the most expensive tool would not sync different elements in a CRM ecosystem. As one interviewee put it so succinctly ‘‘*no matter how much you invest behind the tools, at the end of the day it's still people using them*’’.

6.3 Limitations of the study and suggestions for further research

Firstly, the methodological choices employed in this thesis has posed certain limitations. As a qualitative multiple case study, the thesis took a relatively high number of case companies into account constraining the possibility to go deeper into the case specific issues. The heterogeneity of the cases also presented itself by their corresponding industries. Again, this meant that the study did not have much opportunity to delve into the industry specific CRM issues and practices. It is therefore possible that if this study had been conducted focusing on a certain industry or a specific case company that the results might have varied.

Secondly, this thesis took clusters of companies as its analysis unit. During the integration of findings from the two clusters, certain aspects of the results were highlighted more for coherencies sake. While this did not alter the results fundamentally, this did, however barred the opportunity to understand each cluster in its absolute essence.

The thesis also faced limitations with CRM related academic literature availability. To mitigate this the author had to borrow ideas from the symmetrical BI literature, which has the potential to skew the discourse towards a certain direction.

Concerning further studies, there are many avenues available in the domain of customer intelligence and decision-making. Firstly, a research identifying the perimeter of customer intelligence within the larger BI domain will help future researchers understand customer intelligence more holistically. Also, a study on the effects of GDPR on the CRM ecosystem will come in very handy. GDPR ushered in a wave of changes in ways BI tools can collect data, and how exactly to steer the customer data collection process in this altered scenario is an important question. Future researchers can also look in the state of integration among various CRM platforms and ways of improving it process wise- not just horizontally within the firm, but, also vertically with upstream and downstream stakeholders.

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Appendix 1: The semi structured interview questions

Background information

Name of the company:

Yearly turnover:

Name of the interviewee:

Position in the firm:

Job description:

Duration of employment:

CI tool(s) in use: (CRM); (ERP tool); (Other tools)

CRM/CI

1. What channels your organization use to interact with customers? (The customer touch points)
2. What kind of customer data do you collect in general? (e.g. Feedback of products, social media activities)
3. How is the information organized? Is there any specific process in place to store customer data?
4. Any channels other than the CRM to collect, store, or process customer data? If so, what are those? **(**If not answered by this point already)
5. Can you describe the key performance indicators (KPI's) from the CRM systems? (e.g. sales, leads…)
6. How long have you personally been using the CRM tool? (and, how frequently you use it?)

Value creation

a. Sensemaking

7. What are the most important benefits derived out of your CRM system?

8. What are the most frequent pains of using the CRM system?
9. Can you elaborate on how the CRM tool helps you identify sales leads?
10. Is the documentation process completely congruent with your documentation practices?
11. How does the CRM tool help you understand the existing customer needs better?
12. Is there any category of information that you would ideally like to generate from your CRM tool, but, don't have right now?
13. Have you ever discovered an insight with regards to your customers that you couldn't have found without the assistance of your CRM tool? What was the insight?

b. Absorbtive capacity

14. Has using the CRM tool helped you shorten the decision-making cycle?
15. Do you have any specific process in place to turn CRM data into organization wide knowledge?
16. How has customer intelligence helped you with the business development process? Can you give an example?
17. Other than the CRM tool, any other processes in place to store the customer related tacit knowledge in your organization?

Managerial actions

18. Does the knowledge derived from the CRM system influences your understanding of the customer dynamic?

19. Does customer intelligence (gathered from the CRM tool) help you in the strategic (or, tactical) planning process? If so, how?
20. Has the CRM system helped you identify patterns in the customer behavior? (an example/examples, please) How typical is it?
21. Can you give an example of an action that resulted because of customer intelligence? (alternatively, a change in a course of action that resulted from customer intelligence?)
22. In which functional areas the data gathered from the CRM tool is most helpful?
23. Finally, would you like to add something here that I didn't ask you about?

Appendix 2: Thesis case study request

My name is Nayeem Rahman, a master student from the University of Vaasa.
Currently, I am writing my thesis which researches broadly the managerial implications of using customer intelligence in the decision-making process. While my focus area is on customer intelligence gathered through CRM tools, e.g. Salesforce, Hubspot, Pipedrive..

As you know, companies are investing a lot of resources behind the CRM tools. Previous research tells us that the nature of the benefits reaped out of these is often ambiguous. Investigating the cases I can contribute to the understanding of the value firms appropriate with such tools.

Some sample investigation areas-- the process of assimilating customer knowledge throughout the organization/the managerial decision-making cycle/locating customer growth opportunities...

Given the scale of your company's operations and the nature of its sales operations, I believe you are a perfect case for me.

Investigating cases I can contribute to the understanding of the value companies appropriate with such tools.

Your cooperation will be much appreciated.

Best regards,
Nayeem