Social CRM strategies for higher education networked organizations

Master thesis

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Jurian Voigt - s1756028
Master Business Administration
University of Twente

Supervisors:
1st Dr. E. Constantinides
2nd Dr. S.A. de Vries

UNIVERSITEIT TWENTE.

Acknowledgements

This research represents the last part of the master program Business Administration, with the specialization track Marketing & Strategy. This Master Thesis is written for the organization EIT. After several months of hard work this research has finally been finished. This study clarifies which Social CRM strategy EIT should apply to develop a sustainable community and the values alumni from EIT experience during a Social CRM strategy. In addition, several managerial implications are given to enhance the relationship with current and potential customers of EIT. This research includes feedback from the supervisors: Dr. Constantinides and Dr. de Vries.

This research could not be completed without the tireless efforts of some people. I would like to express my special thanks to these people. First of all, I would like to thank my supervisors Dr. Constantinides and Dr. de Vries for their valuable advice, feedback, finding focus for my master thesis and active attitude during several meetings. Furthermore, I would like to thank Wouter Vollenbroek, who provided valuable feedback for the analysis part of this master thesis. Next, I would like to thank EIT for granting access to information. Finally, I would like to thank the participants of this research. Without their valuable input, it was impossible to complete this research. I am very grateful for the given opportunity and trust to do this research. Moreover, I am very pleased with the end result.

Faithfully yours,

Jurian Voigt

Management summary

This section elaborates the motives and goals for research, its process, key findings and conclusion in one page.

Research motives and goals

This research focused on the fact that there is a high rate of failure when implementing Social CRM strategies (Greenberg, 2004; Kamprtath & Roelingery, 2009) and there is no systematic description of what suitable Social CRM strategies are for managing relationships with stakeholders in a network perspective. The aim of this research is to (1) explore if a typical Social CRM strategy lead in practice to the creation of a sustainable community and (2) explore the values people perceive during a typical Social CRM strategy. The goal of this research is thus to get a better understanding about Social CRM strategies and the values individuals experience with these strategies. The research question guiding this research is defined as follows: “What Social CRM strategies and tactics lead to the creation of sustainable communities for networked organizations?”

Research methods

A quantitative research method is chosen to collect the data. An online research questionnaire was used to collect the data from EIT alumni. For these participants were chosen, since it is the best way to determine how relationships with both participants as well as prospects can be managed. The questionnaire consists of one Social CRM strategies, namely data-driven content marketing. This strategy was transformed into a scenario. The questions used in the questionnaire were based on the value sphere of Larivière et al. (2013) and consist of 11 items. Informational value, social value, convenience value and entertainment & emotional value were considered as independent variables. Identity value was the dependent variable because with this value it is possible to measure the joinability of communities. In total 238 alumni from EIT completed the questionnaire. The values measured with the questionnaire had almost all a Cronbach’s alpha above 0,8 except entertainment & emotional value. To analyze the data, multiple regression and structural equation modeling were performed to test the relationships between the independent and dependent variables.

Research results and conclusions

The results show that the alumni from EIT most experienced informational value followed by convenience value and then entertainment & emotional value during a Social CRM strategy. Next, from empirical findings it can be stated that a typical Social CRM strategy result in perceived values by alumni from EIT (H1). Then, this research found a significant model which examines the influence of the joinability of communities. This model has three contributors, namely entertainment & emotional value, social value and convenience value that explain for 80,8% the variance in the dependent variable, identity value (H3, H4 and H5). In short, it can be concluded that data-driven content marketing strategy results in perceived value by the alumni from EIT and that these values have a significant effect on the joinability of communities.

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1 Introduction

In this section, the context and relevance for this research will be elaborated, followed by the research gap existing in the literature. Next, the theoretical and practical relevance for this study will be explained. Then, the research question guiding this study and research process will be given. Finally, the outline of the paper will be described, which will give a clear overview of the structure of the report.

1.1 Context and relevance of the study

Organizations in the late 1990s through early 2000s, participated in the widespread deployment of customer relationship management (CRM) technologies. However, in recent years, the development of Internet, Information systems and Social media have led to the explosive growth of data. Web 2.0, commonly referred to as Social media, have become important tools within the growth of information and communication technology (ICT) in the last few years. The Web 2.0 and Social media have changed the usage of the internet fundamentally. Web 2.0 technologies have increased the potential for creating more rapid and extensive social networks and business relationships (Askool & Nakata, 2010). Enabling Web 2.0 tools such as blogs, Wiki, Social media applications and other services, which are widely used by individuals, have an effect on traditional CRM systems (Askool & Nakata, 2010).

For this reason, the traditional CRM systems are becoming obsolete. Moreover, the number of people who use Social media are growing. As a result, individuals are not passive anymore, but are connected and empowered (Malthouse, Haenlein, Skiera, Wege & Zhang, 2013;). Due to the rise of Social media, today's managers are integrating Social media data with existing systems and processes to develop new capabilities that foster stronger relationships with customers (Trainor, Andzulis, Rapp & Agnihotri, 2014). This led to the new concept of Social CRM, which is emerging as a new paradigm for integrating social network applications with traditional CRM systems. The term Social CRM describe the new way of developing and maintaining customer relationships (Greenberg, 2010). The concept of Social CRM distinguishes itself from traditional CRM by the following reasons:

- With Social CRM, it will be possible to manage the relations with current as well as potential customers, which was not possible with traditional CRM due to the focus on customers' existing in an organization it's database.
- Social CRM is regarded as a new strategic approach (Woodcock, Green & Starkey, 2011)**.**
- It extends traditional CRM by means of employing Web 2.0 technologies and Social media in order to adapt to customers' demands (Lehmkuhl & Jung, 2013).
- By linking and integrating Social media data with existing CRM systems, organizations may potentially improve their marketing activities (Marolt, Pucihar & Zimmermann, 2015).
- The unique characteristics of Social CRM enables firms and consumers to interact and communicate, produce and consume benefits and value in new

ways that have not been captured by previous strategies (Larivière, Joosten, Malthouse, Birgelen, Aksoy, Kunz, & Huang, 2013).

- According to Marolt et al. (2015) the main benefits of Social CRM are: "building trust, gaining customer insights, establishing customer loyalty, achieving customer retention, involving customers in new product development, improving customer lifetime value and company reputation, and lowering the cost of service" (p. 261).

To summarize, Social CRM provide new opportunities for collaboration, social interactions and value creation which supports a customer-centric management. Social CRM addresses these opportunities and aims at a high customer engagement as a means to establish mutually beneficial long-term relationships, which was not possible to achieve with traditional CRM before (Lehmkuhl & Jung, 2013).

In order to stay competitive in today's business environment, firms need to create value for their customers and create a mutual beneficial long-term relationship with them (Holm, Eriksson & Johanson, 1999). Organizations realize there is a need to build and sustain relationships with their customers, and as well as with a network of stakeholders. Firms are becoming involved in networks consisting of multiple firms, stakeholders and communities (Bradford, Stringfellow & Weitz., 2004). Thinking more broadly in terms of networks, this relational perspective can be extended to a variety of other social actors, known as stakeholders or partners. Ellis (2011) assumes that B2B networks is best understood in terms of evolving relationships between organization i.e. in terms of continuing interactions.

According to Ellis (2011) and Walter (1999) the goal of marketing has shifted from a transactional short-term focus towards a need to seek and forge long-term relationships with targeted customers. In other words, business relationships has shifted from a transactional marketing perspective towards a relational marketing approach. In which reaching customer satisfaction, customer retention and long-term commitment are the main focus (Walter, 1999). This means that organizations must see themselves as an actor in a large network. An understanding of the principles of relationship marketing in a network perspective can offer firms the potential to achieve sustainable competitive advantage in B2B markets (Ellis, 2011). So, it becomes clear that managing relationships in networks are something marketers should strive for.

The main objective of traditional CRM is to manage customer relationships, in order to maximize their customer life-time value for the firm. However, the users of Social media are primarily a community of individuals bounded together with a common interest, so they are not necessarily customers of a firm (Ang, 2011). Therefore, according to Ang (2011) when using the term Social CRM there is no distinction between customers and community members in networks. For this reason, the context of Social CRM in this study is viewed as an enabling tool to manage relationships with individuals in the network of organizations.

An example of a network organization is the European Institute of Innovation & Technology, hereafter mentioned as EIT, which is an independent body of the European Union set up in 2008 to bring together leading higher education institutions,

research labs and companies to spur innovation and entrepreneurship across Europe (EIT, 2016). It also teaches different level of courses ranging from professional education, Master's and PhD programs. EIT is structured as a network organization that has the ambition to become the European equivalent of MIT. To successfully market as a network organization, EIT has to manage and engage their participants and key influencers in the market. Because EIT is structured as a network organization it is a suitable case to test Social CRM strategies. Therefore, Social CRM strategies will be designed based upon the literature and tested in practice at EIT. Hence, this will lead to a suitable strategy for networked higher education organizations in order to deploy tactics whereby current relationships will be enhanced and community members are triggered to become involved in their network.

1.2 Research gap

The concept of combining Social media data with existing CRM-systems has gained importance in the literature (Askool & Nakata, 2010; Greenberg, 2010; Lehmkuhl & Jung, 2013). While extant literature provides a foundation upon which to base Social CRM research, Trainor et al. (2014) state that research for Social CRM technologies remains largely unknown and underexplored due to the following reasons:

- The concept of Social CRM is still a relatively new domain (Malthouse et al., 2013).
- Little research has yet examined how Social media technologies interact with CRM systems and processes to enhance customer relationships (Trainor et al., 2014).
- Despite the growth of Social media and available data, organizations are still unclear how to use the data internally to enhance their marketing activities (Ang, 2011).
- Leading organizations are beginning to ask how Social media and Web 2.0 technologies can be incorporated with existing databases (Ang, 2011).
- Many organizations are still in the early stage of adoption (Marolt et al., 2015)
- There remains little direction on how to integrate Social media data with CRM (Faase, Helms & Spruit, 2011).
- Studies from Greenberg (2004) and Kamprtath and Roelingery (2009) indicated that there is a high rate of failure when implementing Social CRM strategies. Some reasons for failures are that organizations see CRM initiatives as technology projects rather than a long-term strategy and issues due to employee’s behavior and organizational culture (Greenberg, 2004; Payne & Frow, 2005; Wu & Wu, 2005).
- Lehmkuhl and Jung (2013), state that it is expected that Social CRM is becoming more mainstream in the coming years.
- Social CRM is yet to be fully utilized as a value adding tool in improving customer relationships (Askool & Nakata, 2010).

Organizations will be able to achieve enhanced results by integrating data and use advanced data analysis tools such as decision-making algorithms to decide what next marketing activity an organization should do (Mohan, Choi & Min, 2008). This is also known as data steering. Research by Malthouse et al., (2013) reveals the limitations of the traditional CRM approach, which views the customer as an individual decision-maker who generates value for the company through consumption and purchase behavior. In the presence of Social media, consumers can contribute to firm growth in a multitude of ways. A fundamental way in which Social media affect CRM is by allowing customers to become active participants in the relationship, by providing them with opportunities to engage with the firm (Malthouse et al., 2013). Social networking is playing a crucial role and it provides organizations with the critical data needed to build relationships with prospects and customers in one single interactive system (Mohan et al., 2008). To take advantage of this potential, organizations need to change their traditional view of CRM towards a Social CRM perspective, in which data plays a crucial role (Malthouse et al., 2013).

Besides the reasons why the research for Social CRM technologies remains largely unknown and underexplored, there are also challenges that Social CRM brings:

1. First, the organization needs to identify the needs of their customers and upon that find the most appropriate technology to support them (Kietzmann, Hermkens, McCarthy & Silvestre, 2011). This could even mean that business's need to transform their existing business models (Stone, 2009).
2. Second, organizations need to define a proper Social CRM strategy (Sussin, 2015).
3. Third, firms need to know how to engage in conversation with customers and communities online (Sigala, 2011). Another issue is a lack of control, because the conversation is carried out via Social media which is not a property of the organization, but the property of the Social media provider as well as everyone involved in the conversation (Kietzmann et al., 2011).
4. Last but not least, organizations are confronted with a challenge on how to measure the performance (Woodcock et al., 2011).

In conclusion, despite the acknowledgements from academia and managers, there still remain a lot of research to do related to Social CRM. The main gap that can be found from the literature is that organizations acknowledge the potential from Social CRM, but firms are still in the early phase of adoption and struggle to use available data in Social CRM, which lead to the high failure rate of implementing Social CRM strategies.

1.3 Purpose of the research

Based on the discussion in the research gap, there are quite a lot of research subjects related to Social CRM unexplored. This research will focus on the fact that there is a high rate of failure when implementing Social CRM strategies (Greenberg, 2004; Kamprtath & Roelingery, 2009). There is no systematic description of what suitable Social CRM strategies are for managing relationships with stakeholders in a network

perspective. Moreover, the traditional CRM concept is becoming obsolete and organizations need to shift their perspective from managing customers to manage complex networks of stakeholders. As a consequence, there is a need for a descriptive model, which will deepen and integrate knowledge of the successful ways Social CRM can be intergraded with existing processes of firms and the practical usage it will bring. Therefore, the purpose of this study is to come up with a Social CRM strategy for higher education networked organizations which will result in the creation of a sustainable community. To test Social CRM strategies in practice, a scenario will be designed which represents a specific Social CRM strategy. The aim of this study is to give insights in the strong and weak points of the practical usage of a typical Social CRM strategy. The end product of this research are managerial recommendations that can be used by higher education networked organizations on what suitable Social CRM strategies are and how to manage relationships with current and potential customers in their network.

1.4 Research question

Based on the given research gap and purpose of this research, the research question is as follows: “What Social CRM strategies and tactics lead to the creation of sustainable communities for higher education networked organizations?”

Four sub-questions are formulated which will help to guide this research:

- What different kind of Social CRM frameworks exist in the literature?
- What different kind of Social CRM strategies exist in the literature?
- What is a practical descriptive framework for Social CRM strategies?
- What different kind of values people experience during a Social CRM strategy?

1.5 Theoretical and practical relevance

The critical significance of Social CRM for managing relationships has only recently been considered by marketing scholars (Askool & Nakata, 2010; Greenberg, 2010; Lehmkuhl & Jung, 2013). Most studies are about the theoretical possibilities and how to integrate the concept of Social CRM with traditional CRM-systems. However, managing relationships in a network perspective has not yet been considered by academia. The theoretical contribution of this research is to (1) explore if a specific Social CRM strategy lead in practice to the creation of a sustainable community and (2) explore the values people perceive during a typical Social CRM strategy. Furthermore, the strategic frameworks and strategies for Social CRM existing in the literature has not been verified with empirical research. The aim of this research is to contribute to the literature by providing a suitable Social CRM strategy for the nature of managing relationships with customers and potential customers in a network setting, which are bases upon empirical results.

Besides the theoretical relevance, this study also has practical relevance. Organizations start to realize the potential of combining existing CRM-systems with Social media data. (1) This study has the practical objective to gain more insight into the practical usage of suitable Social CRM strategies. This will result in managerial

recommendations for networked organizations how to properly use a Social CRM strategy in line with their business activities. In addition, recommendations will be given how higher education networked organization can create a sustainable community.

1.6 Research process

To address the research question, the research method that will be used in this study will be a survey based research. First, this research will start with a literature review in chapter 2 to identify design requirements and principles to design a descriptive model for Social CRM strategies and explore which Social CRM strategies exist. Then, one Social CRM strategy will be transformed into a scenario. The next step of the research process will be using surveys to obtain the necessarily data and test the Social CRM strategy in practice. The case that will used during this study is the organization EIT, therefore, the participants of this research are the alumni from EIT. This research will be examined from the theoretical perspectives of relationship marketing, capabilities theory, social network theory and community development theory that provide different lenses to examine the emerging concept of Social CRM. The theoretical domain of this study is mainly social and behavioral sciences and will subsequently apply the logics from the Social CRM literature.

1.7 Outline of the paper

The paper is outlined as follows: first, the concept of Social CRM which is already introduced, will be outlined in more detail, as well as the different theories from literature are combined to develop a descriptive model and a research model with hypothesis will we formulated which will further guide the research. Then, the methodology used during this research will be described, followed by the findings from testing Social CRM strategies in practice. Based upon the findings, a conclusion and recommendations are given for EIT to manage relationships in a network perspective. Finally, this paper will end with a discussion to critically reflect this research.

2 Theoretical framework

This chapter will be used to describe the theoretical framework for this study. A literature review provides the basis for this chapter. Various theories and definitions about Relationship marketing, Brand community management, CRM, Big Data, Social media and Social CRM are elaborated in this chapter. These concepts form the foundation of this research and will be combined into a descriptive model and proposed research model at the end of this chapter. The theories from Relationship marketing and brand community are used for the sustainable community development. The concepts of CRM, Social media and the corresponding Big Data, are used because its overlapping with Social CRM. This chapter will give answer to the sub-questions:

1. What different kind of Social CRM frameworks exist in the literature?
2. What different kind of Social CRM strategies exist in the literature?
3. What is a practical descriptive framework for Social CRM strategies?

2.1 Relationship marketing

Due to the empowerment of customers, it is nowadays important to understand how to manage relationships with stakeholders. Therefore, the concept of Relationship marketing will be elaborated to give answer why it is important to manage relationships in a network of stakeholders.

In today's business environment firms are embedded in networks of social, professional, and exchange relationships with other organizational actors. These strategic networks are composed of interorganizational relationships (IOR) that are enduring (Gulati, Nohria & Zaheer, 2000). The performance of firms can be more understood by examining the view an organization has on the network of relationships. Moreover, thinking more broadly in terms of networks, this relational perspective can be extended to a variety of other social actors, known as stakeholders or partners. This means that organizations must see themselves as an actor in a large network. It is important for firms to take the network perspective into account when managing relationships with customers and communities. Grönroos (1994) defined relationship marketing as follows: "identify and establish, maintain and enhance and, when necessary, terminate relationships with customers and other stakeholders, at a profit so that the objective of all parties involved are met; this is done by mutual exchange and fulfilment of promises" (p. 9). This definition will be used in this paper because it takes stakeholders into account. According to Ellis (2011) there are six factors when attempting to manage relationships. These factors are: (1) Trust, (2) Commitment, (3) Communication, (4) Customer service, (5) Mutual benefits and (6) A long-term perspective. In addition, several researchers stress the importance of trust and commitment in business relationships (Doney & Cannon 1997; Mele, 2011). Moreover, the quality of communication, trust and commitment are the most important characteristics of business relationships (Coote, Forrest & Tam, 2003). These six factors are key drivers for relationship management and should be taken into account by marketers who manage relationships with stakeholders.

Nevertheless, all the previous mentioned relationship characteristics have together an effect on the performance of network outcomes for organizations (Bradford

et al., 2004). Therefore, it is nowadays important for firms to manage relationships not only with customers but also with members in their communities, such as stakeholders.

2.2 Brand community development

The users of Social media are primarily a community of individuals bounded together with a common interest. To create a network for higher education organizations it is important to understand brand community development, which will give answer how to create and maintain a community.

The rapid development of online technologies enables individuals to express themselves as brand advocates to share their brand experiences with others in online platforms. Strong brand communities are known to produce positive outcomes for firms, for example the brand benefits from the loyalty and advocacy of such strong relationships (Stokburger-Sauer, 2010). A brand community can be defined as “a group of consumers with a shared enthusiasm for the brand and a well-developed social identity, whose members engage jointly in group actions to accomplish collective goals and/or express mutual sentiments and commitments” (Bagozzi & Dholakia, 2006, p. 45).

In general, visitors who only scan information and do not interact with others tend to outnumber the active members in online brand communities (Zhou, Wu, Zhang & Xu, 2013). Therefore, according to Zhou et al. (2013) managers' ability to transform more visitors into community members determines the sustainability of their online brand communities. Based on the research of Zhou et al. (2013), there are two major factors that influence the joinability of brand communities, namely: informational value and perceived social value. For website visitors with brand ownership, both informational value and perceived social value play full mediating roles. However, for visitors without brand ownership, both values play partial mediating roles. To classify the integration of website visitors into brand community members, McAlexander, Schouten, and Koenig (2002) proposed a model of brand community integration that consists of four relevant relationships:

1. Those between the customer and the product
2. The brand
3. The company
4. Other customers/owners

In addition, according to Stokburger-Sauer (2010) brand communities show three traditional principles, namely:

1. Shared consciousness
2. Rituals and traditions
3. A sense of moral responsibility

Shared consciousness is the key driver of brand communities, which is understood as an “intrinsic connection that members feel toward one another, and the collective sense of difference from others not in the community” (Muniz & O’Guinn, 2001, p. 413). The second driver, rituals and traditions are important to help preserve and continue the community’s meanings, history, and culture (Stokburger-Sauer, 2010). Third,

community members feel a moral responsibility to the community as a whole and to its individual members (Muniz & O'Guinn, 2001).

In sum, it is important to foster customers to become active members of a brand community to produce positive outcomes for firms. Important drivers for creating an online community are informational and social value. Firms should also understand the three traditional principles of brand community development to maintain the community.

2.3 CRM

Some academia (e.g. Ang, 2011; Faase et al., 2011) argue that Social CRM is an extension of CRM. The basic components of traditional CRM will be described and will reveal the limitations of CRM where it set is self apart from Social CRM.

Customer relationship management emerged in 1980s and emphasizes the continuing relationships that should exist between organizations and their consumers (Stone, Woodcock & Machtynger, 2000). Moreover, CRM made managing long-term relationship with customers possible. During the 1990s, CRM was a two-way communication in order for organizations to use the available information to determine the correlations between customers' information and for securing long-term relationships (Askool & Nakata, 2010). There is some difference between the relationship marketing concept, which focuses on customers, and CRM takes it a step further with the integration of other business activities (Askool & Nakata, 2010). With a CRM-system, data and information can be stored and processed to understand customers and co-create value with them (Payne & Frow, 2005).

Although the concept of CRM has been studies by various researchers, the definition of CRM is not completely agreed upon within the academia (Askool & Nakata, 2010; Lehmkuhl & Jung, 2013). The mainly used definition for CRM is from Payne & Frow (2005) who define CRM as "a strategic approach that is concerned with creating improved shareholder value through the development of appropriate relationships with key customers and customer segments" (p. 168). Another definition is provided by Zablah, Beuenger, and Johnston (2003) who state that "CRM is a philosophically-related offspring to relationship marketing which is for the most part neglected in the literature" (p. 116).

CRM unites the potential of relationship marketing and IT to create profitable, long-term relationships with customers and other key stakeholders (Lehmkuhl & Jung, 2013). To unlock this potential, organizations need an integration of processes, people, operations, and marketing capabilities (Payne & Frow, 2005). Moreover, CRM must be seen as a strategy rather than a piece of software, due to its human, technological, and processes implications involved in organizations. Within the CRM strategy, the mentioned processes are directed toward a common goal: to satisfy and create a long-term relationship with clients (Mendoza, Marius, Pérez & Grimán, 2007). Based on the work of Malthouse et al. (2013), they classified that there are three basic components of a CRM process when managing relations with customers, namely: relationship initiation (acquisition), maintenance (retention) and termination.

According to Greenberg (2004) there are three layers of CRM, which are operational, analytical and collaborative. These three aspects can each be implemented in isolation from each other and that a CRM system is capable of executing all the three aspects simultaneously (Mohan et al., 2008). Collaborative CRM, which creates a possibility for communication between a firm, its channels and customers, is most relevant for Social CRM (Askool & Nakata 2010). Mohan et al. (2008) provided operationalization's for the three different CRM aspects, which are presented in table 1.

Table 1 The three CRM aspects

Collaborative CRM	Operational CRM	Analytical CRM
Call center	Marketing	Information Search
E-commerce	Sales	Analysis Algorithm
Web	Services	
Wireless		

Reprinted from "Conceptual Modeling of Enterprise Application System Using Social Networking and Web 2.0; Social CRM System" by Mohan, S., Choi, E., & Min, D. (2008).

What seems to be agreed upon the academia, is that a CRM system has three main components: people, process and technology (Askool & Nakata, 2010). In order to have an effective CRM system, a full integration among these components need to be considered (Greenberg, 2004). While both business processes and technology are critical factors for a successful CRM system, people from both an inside perspective (decision makers and users) and an outside perspective (clients) are vital in a CRM strategy (Askool & Nakata, 2010).

In recent years, new channels have emerged and one of the integral needs of CRM is the extension of services to multiple channels (Awasthi & Sangle, 2012). The channels that are currently playing an important role in CRM are Social media (Constantinides, 2014). Customers and potential customers are conversing openly about brands, services or products through it, and the utilization of customer preferred channels is becoming a must in order to acquire and retain customers (Marolt et al, 2015). This reveals the limitation of the traditional CRM approach, which focuses on maintaining relationships with customers (Malthouse et al., 2013). Therefore, it is important to get a better understanding of Social media and the corresponding Big Data, which are concepts that are overlapping with Social CRM.

2.4 Big Data

Social CRM is the concept of using data from several sources to manage relationships in a network of stakeholders. So, the data is a key driver for Social CRM. Therefore, it is important to understand the concept of Big Data.

The rapid development of Internet, Internet of Things, Cloud Computing and Social media have led to the explosive growth of data. For these immense datasets, the name Big Data became widespread as recently as in 2011 (Gandomi, & Haider, 2014). The combination of Big Data and marketing intelligence has gained importance

from the marketplace. Technology helps capture rich and plentiful data from consumer information in real time. What is different today is that primary data are available from individual consumers, resulting to entirely new ways of understanding consumer behavior and formulating marketing strategies (Erevelles, Fukawa & Swayne, 2016). Thus, data provide behavioral insights about consumers and marketers translate those insights into competitive advantages. Moreover, Davenport (2006) argues that organizations that actively analyze data are outperforming their competitors.

Big Data is complex and can only be defined with the help of its dimensions. Although not completely agreed upon within the academia (Gandomi, & Haider, 2014; Phillips-Wren & Hoskisson, 2014; Fan, Lau, & Zhao, 2015; Tanaka, 2015) the leading idea is that Big Data has three main dimensions, namely: volume, velocity, and variety. (1) With volume, the size and scope of the data is meant. (2) The second dimension is velocity and refers to rate at which data is created and (3) the last pillar of Big Data is variety and is defined as the heterogeneity of a dataset. In addition, multiple researchers proposed two more dimensions to define Big Data, namely: veracity and value (Jagadish, 2014; Jin, Wah, Cheng, & Wang, 2015). Because not all data is accurate, (4) veracity emphasizes the need of data quality. (5) In order to eliminate irrelevant data, organizations need to consider the value of data sources. To summarize, IIHT (2014) provided a framework consisting the five Big Data V's with the corresponding operationalization's, which are shown in table 2.

Table 2 The five Big Data V's

Volume	Velocity	Value	Veracity	Variety
Terabytes	Batch	Statistical	Trustworthiness	Structured
Records/Archive	Real-time	Events	Authenticity	Unstructured
Transactions	Processes	Correlations	Origin and Reputation	Multi-factor
Tables and Files	Streams	Hypothetical	Availability	Probabilistic

Reprinted from "5 v's of Hadoop Big Data" by IIHT (2014) Retrieved November 29, 2016, from http://iihtofficialblog.blogspot.nl/2014/07/5-vs-of-hadoop-big-data.html

2.4.1 Big data analytics

An important aspect of Big data are the insights that can be extracted from the data. Therefore, it is important how Big data analytics can be applied to analyze data and how the insights will enhance marketing activities for firms.

Big data analytics have been embraced as a disruptive technology that will reshape business intelligence, which is a domain that relies on data analytics to gain business insights for better decision-making (Fan et al., 2015). When managing the transition to a data steering organization, it is necessary to develop capabilities in order to extract insights from data. Such capabilities would be resources, knowledge, skills and enabling software tools. The potential of data is only unlocked when leveraged to drive marketing decision making. To enable such evidence-based decision making, organizations need efficient processes to turn high volumes of fast-moving and diverse data into meaningful insights (Gandomi, & Haider, 2014). Big Data analytics refers to

the business intelligence and analytics technologies that are grounded mostly in data mining and statistical analysis (Chen, Chiang & Storey, 2012). When using Big Data analytics, even small and medium-sized enterprises can mine massive volumes of data (Gandomi, & Haider, 2014). For example, data can be used to improve website designs and implement effective cross-selling and personalized product recommendation systems. The process of Big Data analytics can be divided in data management and analytics (Gandomi, & Haider, 2014). (1) Data management involves processes and supporting technologies to acquire and store data and to prepare it for analysis. (2) Analytics, on the other hand, refers to techniques used to analyze and acquire intelligence from Big Data. A study from Chen et al. (2012) identified all the available tools for several data analytics platforms, which is presented in table 3.

Table 3 Data analysis tools for Big Data

Big Data Analytics	Text Analytics	Web Analytics	Network Analytics	Mobile Analytics
Data warehousing	Information retrieval	Information retrieval	Bibliometric analysis	Web services
Data mining	Document representation	Computational linguistics	Citation network	Smartphone
Clustering	Query processing	Search engines	Co-authorship network	
Regression	Relevance feedback	Web crawling	Social network theories	
Classification	User models	Web site ranking	Network metrics and topology	
Association analysis	Search engines	Search log analysis	Mathematical network models	
Anomaly detection	Enterprise search systems	Recommender systems	Network visualization	
Neural networks		Web services		
Genetic algorithms		Mashups		
Multivariate statistical analysis				
Heuristic search				

Reprinted from “Business Intelligence and Analytics: From Big Data to Big Impact” by Chen, H., Chiang, R. H. L., & Storey, V. C. (2012).

Organizations can use the techniques mentioned in table 6, to extract valuable insights from the data that a firm has collected and stored in a data warehouse. In order to extract valuable information, first the obtained data has to be cleaned and processed before a data analysis tool can be applied. When this is done, data analysis techniques are released on the clean data to derive insights. The results from the data analysis, can be used for improved marketing actions or even automated, in the form of marketing automation, when internally all processes are linked to each other. Hence, the importance of Big Data analytics for firms to extract valuable insights from data shall lead to the development of data-steering organizations.

2.5 Social media

Social media provide new opportunities for organizations to enhance their marketing activities. In this paragraph it will be explained what Social media are and what opportunities and challenges it brings.

With the rise of Social media, the internet fundamentally changed, and is referred as Web 2.0 (Constantinides, 2014). Web 2.0 and Social media are two terms often used interchangeably (Askool & Nakata, 2010). Social media are the corresponding web-based applications that facilitate Web 2.0 principles (Kaplan & Haenlein, 2010). Web 2.0 and Social media are the technical enablers for an online-based exchange of digital contents (Lehmkuhl & Jung, 2013). The term Web 2.0 was first introduced by O'Reilly (2007) who defined it as ''a network as platform, spanning all connected devices'' (p. 17). In order words, O'Reilly states that Web 2.0 websites are not limited to any particular boundary. According to Peters, Chen, Kaplan, Ognibeni and Pauwels (2013) Social media are substantially different from traditional media, Social media rather resemble dynamic, interconnected, egalitarian and interactive organisms beyond the control of any organization.

Because Social media is substantially different, it influences the marketing practices both on strategic as well as tactical levels (Constantinides, 2014). Therefore, many organizations have difficulties and challenges when implementing Social media (Effing & Spil, 2015). According to the work of Constantinides (2014) for most practitioners the term Social Media is associated with the user-generated content. Therefore, the term Social Media can be defined as Web 2.0 applications enabling the creation, editing and dissemination of user-generated content (Constantinides, 2014). This definition is supported by Effing & Spil (2015) who define Social media as "a group of Internet-based applications that build on the ideological and technological foundations of Web2.0, and that allow the creation and exchange of User Generated Content" (p. 2).

The popularity of Social media initiated a remarkable change in the customer behavior (Askool & Nakata, 2010). The rise of social network platforms, such as Facebook and Twitter, did not limited the customer anymore in a passive relationship with an organization (Malthouse et al., 2013). The facilitating interpersonal communication possibilities by Social media, enabled customers to become more empowered and to take an active role in co-creating their experience (Trainor, 2012). In addition, having more information about competitive products available anywhere on the internet, individual customers can easily express and distribute their opinions and reach large audiences (Malthouse et al., 2013). When customer's express negatives messages about an organization on the web, it could harm the firm's reputation (Gensler, Sonja, Völckner, Liu-Thompkins & Wierda, 2013).

However, the emergence of Social media also offers organizations opportunities to listen and engage with their customers, and potentially to encourage them to become advocates for their products (Malthouse et al., 2013). As a result, organizations need to pay attention and respond to these behaviors to manage their customer acquisition and retention (Askool & Nakata, 2010). When considering the shift in behavior, firms need to focus on building their social presence to become an

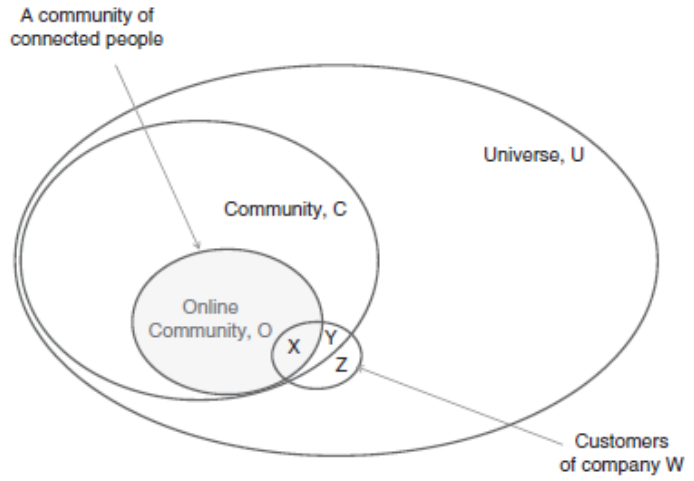
organization that will offer the ability to listen and react to their customers' needs and preferences.

2.5.1 Social media communities

Despite the growth of Social media, managers are still unclear how it can be used to benefit their organizations.

Part of the problem stems from confusing customers with online community members, because online community members are not necessarily customers of an organization (Ang, 2011). Managing customers falls into the well-known area of CRM, but managing a community of online users is quite different (Ang, 2011). This fact is shown in figure 1, which shows the relationship between customers and communities (Ang, 2011). If an organization wants to manage the participants and community members, it first needs to understand how Social media facilitates the formation of relationships among users (Ang, 2011). To manage these relationships, Ang (2011) formulated a 4Cs model, which reflects what individuals do in online communities. The four C's are: (1) Connectivity, (2) Conversations, (3) Content creation and (4) Collaboration. Organizations need first to create connectivity in order for social networking to grow and prosper. This is achieved by creating Social media channels that are easy for users to connect to. With connectivity come conversations. Almost every Social media platform has a feed whereby all the latest information about a person is available. These feeds encourage people to respond, which stimulate the conversations online. Human beings like to create and share content online (Ang, 2011). Blogposts, pictures and video-uploads all represent elements for individuals to show off their content. The last C is collaboration, which means that multiple users can contribute cooperatively to the completion of a project. This could be for example, online panels whereby users can express their ideas for new product development.

Figure 1 The relationship between customers and communities

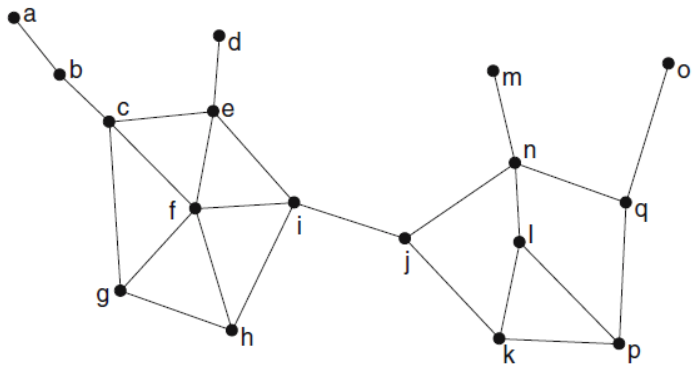


Reprinted from "Community relationship management and social media" by Ang, L. (2011).

Social media are used by individuals who are satisfying basic sociological patterns like identity seeking through affiliation in groups, sharing experiences, telling stories, and

building relationships (Lehmkuhl & Jung, 2013). To put it differently, Social media platforms are used to facilitate social interactions among each other, and there is nothing commercial about that relationship (Ang, 2011). As individuals rely more and more on Social media applications to keep connected with peers and colleagues, these applications are increasingly viewed as important forms of interactivity among network members. In figure 2 an example of a social network is given, where nodes or actors (black circles) symbolize individuals and edges (lines) social connections between them.

Figure 2 An example of a social network



Reprinted from "Social network theory in the behavioral sciences: potential applications." by Krause, J., Croft, D. P., & James, R. (2007).

With the social network theory is it possible to explain how content goes viral in relatively few steps. For example, a small change in one node or actor can have a huge impact in the overall network. When a change is initiated at the node level, the change moves first from the node, along its ties to the various connected relationships, before being pushed out to additional nodes and their relationships, creating a change throughout the entire social network. Not only are customers expecting interactions among their personal networks but also from communities (Trainor, 2012). So, it can be stated that the users of Social media are primarily a community of people bonded together by a common interest.

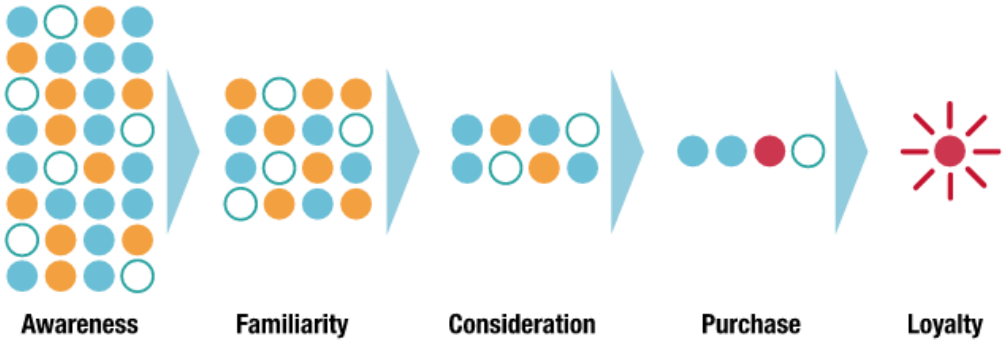
2.5.2 Social media touch points

Every web-user or customer from a firm is unique and will have different stages in the process of creating a mutually beneficial relationship. It is important to understand the different phases and how it can be used by organizations to influence the decisions of web-users and customers.

The touch point is the point where individual users and the company meet each other and it is the point where consumers' behavior can be influenced (Markerink, 2016). The touch points can be explained best by the consumer decision journey. Marketers want to influence consumers during their decision process. In the traditional funnel (shown in figure 3), individuals start with a set of potential brands they know and methodically reduce that number to make a purchase decision (Court, Elzinga & Vetvik, 2009). Moreover, this traditional model stresses the importance for marketers

to understand this journey and direct their spending and messaging to the moments of maximum influence, they stand a much greater chance of reaching consumers in the right place at the right time with the right message (Court et al., 2009).

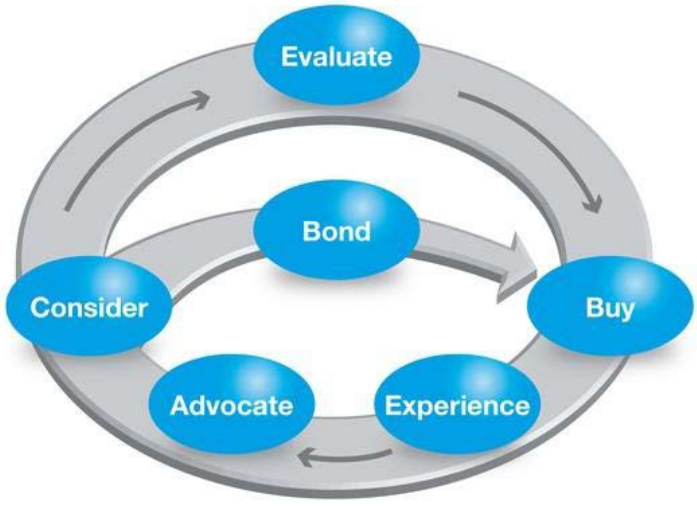
Figure 3 Traditional purchase funnel



Reprinted from "The consumer decision journey," by D. Court, D. Elzinga and O.J. Vetvik, 2009

However, with the advanced technologies such as Web 2.0 and Social media, enabled individuals to become more informed through all the (digital) channels. Consumers can remain engaged with brands by following the brands via various social media platforms (Edelman, 2010). As a result, the traditional purchase funnel has become obsolete. Therefore. Elling, Forsyth and Salsberg (2012) developed a new model, which takes the engagement a consumer can have with organizations into account. This model takes also the shift from one-way communication (companies to customers) towards two-way communication into consideration. The model is called the Consumer Decision Journey (shown in figure 4). This model visualizes the consumer decision journey and shows the points for marketers to get in touch with customers. Moreover, the model views the decision-making process now as a circular journey, in which consumers can go back to consider new alternative offers. Therefore, it is for firms important to understand the strength of a brand compared with its competitors at different stages in the model.

Figure 4 The consumer decision journey



Reprinted from "Global Digital Diaries, Part 2: Three phases of the Consumer Decision Journey in action", By M. Elling, J. Forsyth and B. Salsberg, 2012

2.5.3 Social media analytics

Social media analytics should be seen as a part of Big data analytics. This paragraph is used to describe what Social media analytics are and what techniques can be used.

Many marketing researchers believe that Social media analytics presents a unique opportunity for businesses to treat the market as a “conversation” between businesses and customers instead of the traditional business-to-customer, one-way “marketing” (Lusch, Liu & Chen, 2010). Social media analytics refer to “the analysis of structured and unstructured data from Social networking platforms” (Gandomi, & Haider, 2014, p. 142). Gandomi & Haider (2014) identified two sources for information that can be extracted from social media: user-generated content (e.g., sentiments, images, videos) and the relationships and interactions between the network entities (e.g., people, organizations, and products). Various techniques have recently emerged to extract information from the structure of social networks. For Social media analytics of customer opinions, text analysis and sentiment analysis techniques are frequently applied (Pang & Lee 2008). All other available data analysis tools for Social media analytics are already presented in table 3.

2.6 Social CRM

In this paragraph the concept of Social CRM is described and the new ways to manage relationships with customers and web-users.

Social CRM is an emerging concept that integrates traditional CRM with Social media data. The main difference between Social CRM and CRM is the focus of CRM on the management of a customer, for example to acquire, to retain and to revitalize them. On the contrary, Social CRM is about the involvement and participation of potential, current and lost customers as well as other web-users in an interactive exchange (Lehmkuhl & Jung, 2013). The traditional CRM approach, views the customer as an individual decision-maker who generates value for the company through consumption and purchase behavior. With social media, consumers can co-create value and contribute to a firm’s growth (Lehmkuhl and Jung, 2013). This is supported by Malthouse et al. (2013) who propose that the traditional view of CRM will change fundamentally by allowing customers to become active participants in the relationship, when providing them with opportunities to engage with the firm. Lehmkuhl and Jung (2013) suggests that Social CRM need to be regarded as a new strategic approach. For the purpose of this research, the concept of Social CRM will be seen as a new concept that make CRM obsolete and will replace it. On the contrary, several academia argue that Social CRM is rather an extension for traditional CRM (Mohan et al., 2008; Alt & Reinhold, 2012)

Because Social CRM is a relatively new term, there is no generally accepted definition of Social CRM (Askool & Nakata, 2010; Lehmkuhl & Jung, 2013). The most commonly used definition in the literature stems from Greenberg (2009) who suggest that Social CRM is “a philosophy and a business strategy, supported by a technology platform, business rules, processes and social characteristics, designed to engage the customer in a collaborative conversation in order to provide mutually beneficial value in a trusted & transparent business environment. It’s the company’s response to the

customer's ownership of the conversation" (p. 413). Another definition comes from Trainor et al. (2014) who defined Social CRM as: "the integration of customer-facing activities, including processes, systems, and technologies, with emergent social media applications to engage customers in collaborative conversations and enhance customer relationships" (p. 1201). Both definition support each other, by claiming that an implementation of Social CRM affects all internal processes of business, such as strategy, technology and culture (Acker, Gröne, Akkad, Pötscher, & Yazbek, 2011).

Furthermore, based on the given definitions, it can be argued that organizations shall pursue an outside-in perspective when establishing Social CRM. Data retrieved from Social media or other sources will be used as input for Social CRM. In addition, Web 2.0 users should be given the opportunity to express themselves as a means to gain more customer insights (Stone, 2009). The empowered customer is self-determined and wants to participate in the creation of its own experience (Constantinides, 2014). This implies that Social CRM aims to intensify relationships by integrating individuals in mutual value (Sashi, 2012; Sigala, 2011). Integration in this context means, e.g. connecting, collaborating or establishing conversations between organizations and their target groups. In other words, the main objective of Social CRM is to build a mutually beneficial long-term relationship with customers and web-users based on a high level of engagement.

2.6.1 Social CRM adoption

The implementation of Social CRM by firms are still in the early phase of adoption (Marolt et al., 2015). Therefore it is important to understand the factors that influence the adoption of Social CRM.

It is clear that Social CRM is not just a technology or software, it includes several elements that need to be taken into account to offer value for customers and web-users (Askool & Nakata, 2010). For that reason, Social CRM should be seen as a new business strategy. Based on the study from Askool and Nakata (2010), there are a range of determinants related to the acceptance and adoption of Social CRM. The elements are identified as: "networking, collaboration, participation, familiarity, care, information sharing and perceived trustworthiness" (Askool & Nakata, 2010 p. 211). Because information and knowledge in Social media are built and shared by social interaction, the determinants networking, collaboration and participation are the most important elements for Social CRM systems and must be considered as a norm (Askool & Nakata, 2010).

Another study related to the acceptance of Social CRM is from Marolt et al. (2015), who identified customers as well as organizational factors that influence the adoption. In table 4 an overview is presented with the important factors that organizations need to consider when implementing Social CRM. It should be noted that factors related to the adoption of traditional CRM are largely the same for the adoption of Social CRM (Marolt et al., 2015).

Table 4 Factors influencing the adoption of Social CRM

Factor	Description
Information technology Infrastructure	IT architecture seems to be crucial because SM tools need to be integrated with traditional CRM systems in order to obtain a full picture of customer's behavior.
Employee skills	Availability of sufficiently skilled experts proves to be a major challenge towards adoption.
Organizational culture	A company culture needs to encourage employees to actively participate and engage in social media that can influence adoption.
Perceived benefits	The appropriate metrics for measuring and managing the social value of customers influence the perception of the perceived benefits and consequently influence on adoption.
Management support	The top management encouragement towards the use of social media seems to have a great influence the adoption.
Social CRM strategy	An organization should determine its social CRM strategy according to the level of customer engagement. This includes evolving social CRM policies and guidelines that can influence adoption.

Reprinted from "Social CRM Adoption and its Impact on Performance Outcomes: a Literature Review", By Marolt, M., Pucihar, A., & Zimmermann, H. 2015

2.6.2 Social CRM capabilities

In order for organizations to exploit the opportunities that Social CRM brings, it is necessary to internally develop the mandatory capabilities. This paragraph will shed light what kind of capabilities are necessarily for a fit between the Social CRM strategy and internal operations.

The resource-based view (RBV) and the capabilities-based perspective are the theoretical bases for Social CRM capabilities (Trainor et al., 2014). According to these two theories, the organization's performance is determined by the resource at disposal and the effectiveness at converting these resources into capabilities, which would lead to a competitive advantage. Resources represent a firm's assets, knowledge, and business processes used to implement a strategy (Trainor et al., 2014). Capabilities, on the other hand, are defined as an organization's ability to assemble, integrate, and deploy resources in combination to achieve a competitive advantage (Trainor et al., 2014).

Moreover, according to Trainor et al. (2014), resources alone are not always sufficient to gain improved performance, instead resources need to be leveraged towards distinctive capabilities. Trainor et al. (2014) defined Social CRM capabilities as "a firm's competency in generating, integrating, and responding to information obtained from customer interactions that are facilitated by Social media technologies"

(p. 1202). Building from this logic and the findings from Trainor et al. (2014), Social CRM capabilities should be considered as a unique combination of emerging technological resources and customer centric management systems that can lead to customer satisfaction, loyalty, and retention when the necessary capabilities are in place.

2.6.3 Social CRM strategies

There is a high failure rate when implementing Social CRM strategies (Greenberg, 2004; Kamprtath & Roelingery, 2009). In this section, the Social CRM strategies frequently mentioned in the literature are given and described.

The traditional notion of CRM strategy is to maximize the customer lifetime value for an organization. However, with Social CRM this has changed. According to Malthouse et al. (2013), Social CRM should include multiple forms of value to the company. Moreover, the organization has to take the values that stakeholders and other relevant communities perceive into account due to change from passive to active people by Social media. Therefore, the traditional CRM strategies does not apply for Social CRM.

Frequently mentioned in the literature, are two Social CRM strategies, namely value fusion and data-driven content marketing (Larivière, et al., 2013; Järvinen & Taiminen, 2016). A strategy specifically designed for Social CRM is value fusion (Larivière, et al., 2013). This strategy takes a joint focus between the values derived from both customers as well as organizations. Understanding how consumers derive value from firms will help organizations create experiences for consumers that are engaging and meaningful. Value fusion can be defined as: “value that can be achieved for the entire network of consumers and firms simultaneously, just by being on the mobile network. Value Fusion results from producers and consumers: individually or collectively; actively and passively; concurrently; interactively or in aggregation contributing to a mobile network; in real time; and just-in-time” (Larivière et al., 2013, p. 268). According to the logic of value fusion, a product or service must provide value to both the firm and consumer, and perhaps other stakeholders; one that fails to provide value for both is unsustainable (Larivière et al., 2013).

One emerging trend for online marketing is to provide engaging content for users. Järvinen and Taiminen (2016) developed a Social CRM strategy called ‘data-driven content marketing’ to use data to personalize content for users. The fundamental premise of a data-driven content marketing strategy is to create and deliver compelling, relevant and valuable content based on individual customer needs (Järvinen & Taiminen, 2016). A website designed with a traditional marketing perspective to sell only products would provide little value to website visitors. With behavioral targeting by tracking website visitors' online behaviors (i.e., navigation paths, page views and duration) it is possible to personalize the content for each website visitor. Content marketing plays an important role in conveying effective information to the consumers thus attract them to keep engaging with the brands (Ahmad, Musa & Harun, 2016). In the literature, there is not a clear definition for data-driven content marketing. Therefore, the definition for content marketing will be used.

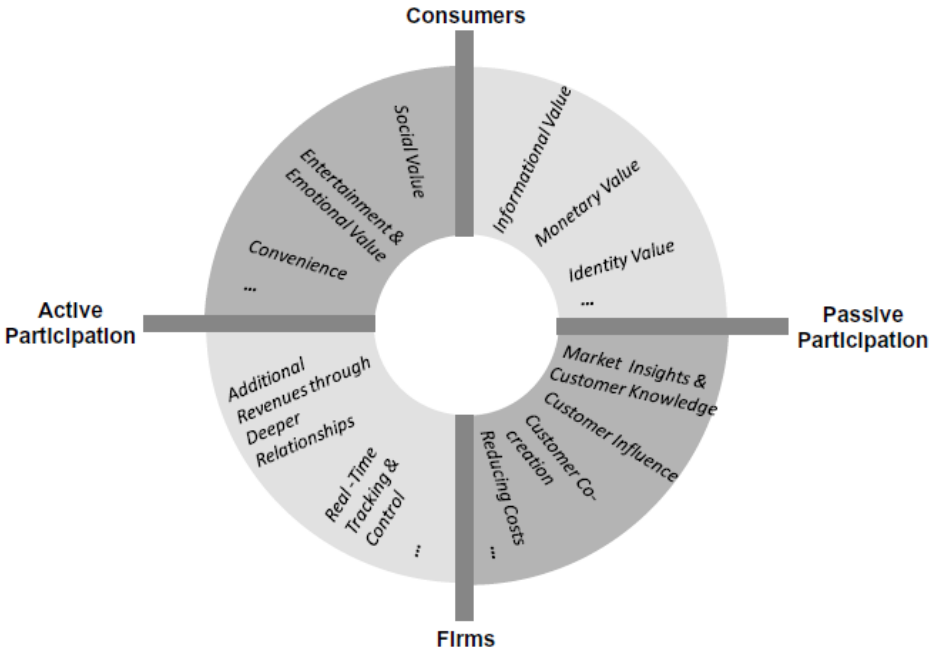
The definition from Holliman and Rowley (2014) is commonly used, who defined the concept of content marketing as follows: “digital content marketing involves creating, distributing and sharing relevant, compelling and timely content to engage customers at the appropriate point in their buying consideration processes, such that it encourages them to convert to a business building outcome” (p. 285). Hence, organizations can use data-driven content marketing strategies to gather data on their consumers and thereby enhance their ability to manage customer relationships (Malthouse et al., 2013).

2.6.4 Social CRM values

The unique characteristics of Social CRM enables firms and consumers to interact and communicate, produce and consume benefits and value in new ways that have not been captured by previous business strategies (Larivière, et al., 2013). This paragraph will give answer on what new values are derived by consumers and organizations from Social CRM.

Both Social CRM strategies (value fusion and data-driven content marketing) have in common that marketers have traditionally thought of value focusing on either the value derived by the consumer or the value accrued to the firm (Larivière, et al., 2013). Therefore, Larivière et al. (2013) developed the value sphere, which is presented in figure 5. This model explains what different kind of values customers and firms experience from Social CRM strategies. In addition, this model is also dived by active or passive participation from consumers as well as organizations.

Figure 5 Value sphere



Reprinted from “The blending of consumer and firm value in the distinct context of mobile technologies and social media”, By Larivière, B., Joosten, H., Malthouse, E.C., Birgelen, M., Aksoy, P., Kunz, W.H., & Huang, M. 2013

This research will only focus on the values consumers derive from Social CRM strategies. Therefore, only the operationalization for these values will be elaborated.

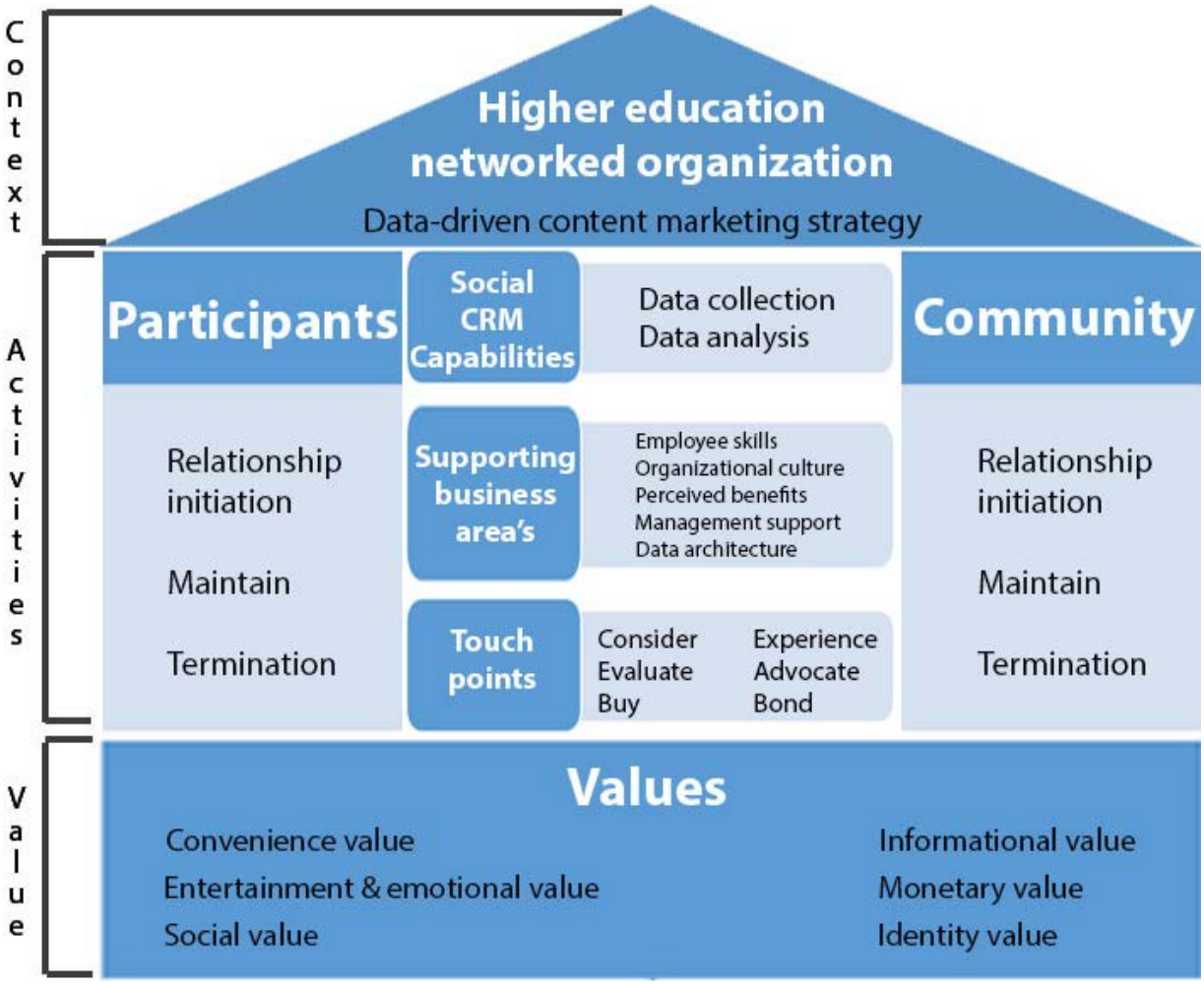
(1) Convenience is the first value for customers, which is the value of achieving a task easily, speedily and effectively (Larivière, et al., 2013). (2) The second value is entertainment & emotional value, which can be understood as the value derived from feelings or affective states that a product or services generates (Larivière, et al., 2013). (3) Third, social value are the social interactions produced by products or services. (4) Fourth, information value is the opportunity for individuals to search for and find information that is relevant in making their consumption decisions. (5) The fifth value is monetary value, which is the opportunity to choose between competing offers and select the alternative that is superior with regard to price or another characteristic like reliability and durability (Larivière, et al., 2013). (6) The last value is identity value, which is a way to express personality, status and image in a public context (Larivière, et al., 2013). In sum, these are the six different types of value consumers could derive from Social CRM strategies.

2.7 Descriptive model for network relationship management

This section introduces a descriptive model for suitable Social CRM strategies to manage relationships with current and potential customers in networked organizations. Based upon the above given literature review, these manners are incorporated when developing the descriptive model. The descriptive model is presented in figure 6 and is called ‘Network Relationship Management model’. For this title is chosen, because the purpose of this research is to involve current and potential customers in the network of organizations. The descriptive model is composed out of the following components; Participants & Communities, Social CRM Capabilities, Supporting business areas, Touch points and finally the consumer values derived from a Social CRM strategy. The ‘Network Relationship Management model’ is a management tool, in which the components represents choices a firm need to make, in order to apply a suitable Social CRM strategy. In addition, the building blocks for the descriptive model most be seen as enablers to get result. The result is in this case a suitable Social CRM strategy for networked organizations.

The descriptive model differs from the Social CRM models in the literature (e.g., Mohan et al., 2008; Alt & Reinhold, 2012; Trainor, 2012; Malthouse et al., 2013) in three important ways. (1) First, this model takes both customers as well as communities into account. Social media users are not necessarily customers of firms, therefore it is important to take non-customers into account, in the form of communities. (2) Second, the descriptive model is not an extension for the traditional CRM concept. Rather it views Social CRM as a new business strategy influencing several or all business processes. (3) Finally, to successfully adopt and implement Social CRM, there are capabilities needed to be present internally. Next, the operationalization’s for the descriptive model will be given.

Figure 6 Network Relationship Management model



2.7.1 Participants & Community

The pillars or sides of the descriptive model are the target audience for EIT, namely: the participants and community members. The main goal of the traditional CRM concept was creating and maintaining a mutually long-term relationship with customers. In the context of this research, managing relationships with current participants is still important. But due to the rise of Social media and that today's firms are embedded in networks, it is also important to take the community into account. Therefore, there are components necessary to classify the stage of the relationship between participants and community members.

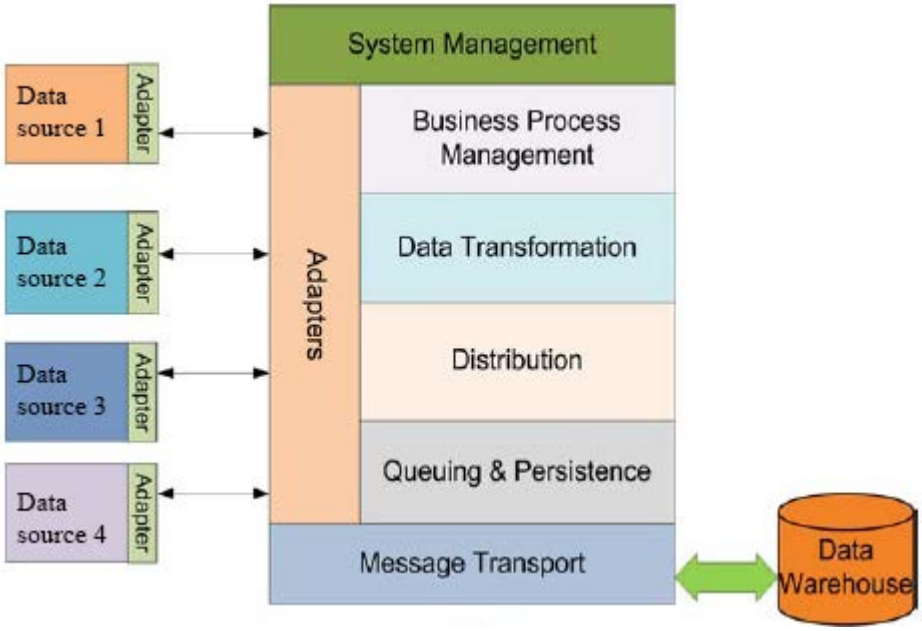
This process of relationships can be defined as: "a CRM process at the customer-facing level as a systematic process to manage customer relationship initiation, maintenance, and termination across all customer contact points to maximize the value of the relationship portfolio" (Reinartz, Krafft & Hoyer, 2004, p. 294). So, there are basically three components: (1) relationship initiation (acquisition), (2) maintenance (retention) and (3) termination (Malthouse et al. 2013). The continuous balance of activities at each stage (customer acquisition, retention, and termination) should be guided by the attempt to maximize the value of the set of current customer

relationships and therefore be associated with better overall company performance (Reinartz et al., 2004). Furthermore, according to Reinartz et al. (2004), “the subsequent subdimensions are acquisition and recovery management for the initiation stage; retention, up-selling/cross-selling, and referral management for the maintenance stage and exit management for the termination stage” (p. 295). The three components for the stage of relationship with consumers and community members will be used in this research.

2.7.2 Social CRM Capabilities

The buildings blocks or middle block of the descriptive model consist of three different components which are necessary for the fit between strategy, target audience and internal operations. With new emerging technologies, like Social CRM it is necessary to develop new capabilities that facilitate the implementation and operation of Social CRM. This study views that data collection and data analysis are the main capabilities necessary for Social CRM. It is essential to have these capabilities internally, because to extract new insights from the available data, advanced techniques and methods are needed. To obtain data from Social media and Internet, technologies like web crawling and mashup can be used. In figure 7 a data collection and analysis process is presented which is proposed by Mohan et al. (2008). First, the process shows that data from several sources are combined into a data architecture. Adapters are necessary for clean data in order for data analysis techniques to understand the data format. Second, several processes are used to transform the obtained data into insights. When this is done, a message will be sent to the associated organization operations and is stored in a data warehouse. Organizations has to implement such processes, to develop the essential capabilities in order to exploit the opportunities that Social CRM brings.

Figure 7 Data collection and analysis process



Reprinted from “Conceptual Modeling of Enterprise Application System Using Social Networking and Web 2.0; Social CRM System” by Mohan, S., Choi, E., & Min, D. (2008).

2.7.3 Supporting business areas

The second buildings block of the descriptive model are supporting business areas. In the same manner, organizations need internally several functions which are the supporting business areas. These are necessary to support the Social CRM capabilities mentioned in the previous paragraph. Marolt et al. (2015) identified the factors that influence the adoption of CRM. In this study, these factors are considered as supporting business areas for Social CRM capabilities. These factors are: Information technology infrastructure, Employee skills, Organizational culture, Perceived benefits, Management support and finally the Social CRM strategy (Marolt et al., 2015). The full operationalization of these factors are already given in table 7.

2.7.4 Touch points

The last buildings block of the descriptive model are the online touch points. Firms have to understand the points where costumers and community members meet each other and customers' behavior can be influenced best. Touch points are based on the consumer decision journey, which has 6 phases (Elling et al., 2012). (1) The first phase is consider, where consumers want or need something. In this phase, they consume information and see advertisements on several online platforms. (2) In the evaluation stage, consumers evaluate the products available on the market. They evaluate the advantages and downsides. They do active research, for example they can ask friends for advice and read online reviews to form their opinions. (3) The third phase is the buy stage where consumers make the decision to buy a product and they are seeking for further validation. (4) In the next stage, consumers are experiencing the product and further validate the emotional and tangible features. (5) Fifth is the advocate phase, in this stage consumers are sharing recommendations for improvements or tell others about the product. (6) The last stage is bond, in this phase consumers are pleased with the brand. They recommend the brand to others and are buying products of the brand without going through the others phases of the consumer decision journey. Networked organizations need to recognize the stages of customers and community members to engage and influence them in the network.

2.7.5 Outcomes

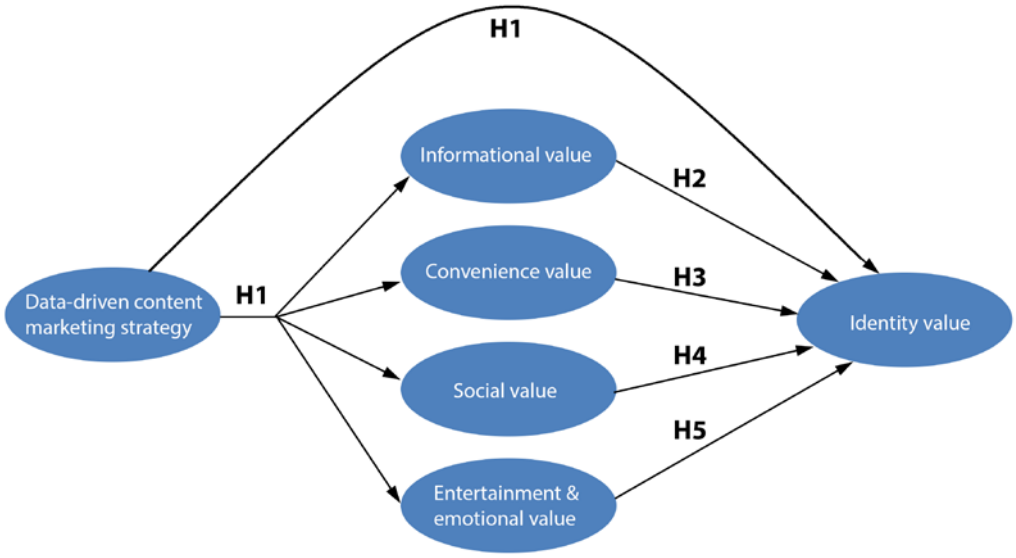
The last element of the descriptive model are the outcomes from a Social CRM strategy. In this case, the consumer values from the value sphere by Larivière et al. (2013) are considered as the outcomes from a Social CRM strategy. The goal of this research is to develop practical recommendations that can be used by networked organizations on what Social CRM strategies and tactics lead to the creation of a sustainable community. So, the main performance outcome of the descriptive model is identity value. As already mentioned in paragraph 2.3, the sustainability of online brand communities is influenced by the ability of managers to transform more visitors into community members (Zhou et al., 2013). Based on the research of Zhou et al., 2013), there are two major factors that influence the joinability of brand communities, namely: (1) informational value and (2) perceived social value, which are also consumer's values considered by Larivière et al. (2013). Informational value refers to the problem-solving function of the information a visitor can obtain from a community,

while perceived social value refers to the social relationships between other members a visitor can sense from a community (Mathwick, Wiertz & de Ruyter, 2008). If visitors value such utilities derived from the community, they may join the community, resulting in a sustainable community. Thus, an online brand community must serve as a useful information platform for visitors, while the valuable content that appear on the community site foster relations between community members.

2.8 Proposed research model

Based on the reviewed literature and previous studies, a typical Social CRM strategy create value in new ways that have not been captured by popular conceptualizations of value (Larivière, et al., 2013). Therefore, this research explores the values from the value sphere by Larivière et al. (2013). Four constructs (informational, convenience, social and entertainment & emotional value) are used as independent variables and one construct (identity value) as dependent variable and are integrated in the proposed research model as illustrated in figure 8.

Figure 8 Proposed research model



By similar reasoning as Zhou et al. (2013) informational, convenience, social and entertainment & emotional value are considered valuable and adequate variables for the prediction of identity value. Consequently, the following hypotheses are defined:

H1: A data-driven content marketing strategy result in perceived values by alumni from EIT.
H2: There is a positive relationship between perceived informational value and identity value.
H3: There is a positive relationship between perceived convenience value and identity value.
H4: There is a positive relationship between perceived social value and identity value.
H5: There is a positive relationship between perceived entertainment & emotional value and identity value.

3 Methodology

In chapter 2 the theoretical framework for this research were explained. The theory gives an impression what Social CRM exactly implies and let to design requirements and principles for the descriptive model and proposed research model. This chapter describes the research methodology for this study. In this section, the design and the implementation of the research are justified. The context of the research, the objectives and the methodology for this study will be discussed. This chapter also describes the research method, the research instruments, their construction and implementation, as well as the participants and the procedures.

3.1 Research philosophy, methodology and methods

When doing research, the philosophy a researcher adopts needs to be acknowledged (Saunders, et al., 2011). This philosophy will underpin the research strategy and the methodology and methods used, and the researcher's view of the epistemology (Crotty, 1998). For choosing the suitable theoretical aspects and philosophy for this research, the framework of Crotty (1998) is used. This research will be viewed from an objectivism philosophy, because it provides objective lenses for reality and eliminates subjective elements. The theoretical perspective for this study is interpretivism, which state that for researchers it is necessarily to understand the differences between people in their role as social actors (Saunders et al., 2011). In general, there are two approaches to research: deduction and induction. This research will follow the inductive approach, since it aims to gain a better understanding of Social CRM strategies and corresponding values in practice.

The choice to execute this research as an exploratory study stems from the literature study. In chapter 2 the theories that alternately interact with the concept of Social CRM are extensively discussed. Based on the theoretical framework, Social CRM should not be seen as static or one-dimensional concept. Moreover, it is an emerging concept that need to be regarded as a new strategic approach (Lehmkuhl & Jung, 2013). As a result, firms are still in the early phase of adoption (Marolt et al., 2015) and there is a high failure rate when implementing Social CRM strategies (Greenberg, 2004; Kamprtath & Roelingery, 2009). So, there is a need for understanding which Social CRM strategies will work in practice and will result in a sustainable community. Therefore, to test Social CRM strategies in practice it can be examined best by exploratory research.

As discussed in the theoretical framework, Social CRM will become more mainstream (Lehmkuhl & Jung 2013). EIT is an organization that are exploiting the possibilities of Social CRM and is a suitable case for this study. The organization should be seen as a network of different nodes. To successfully market as a network organization, EIT has to manage and engage their participants and key influencers in the market. Therefore, one Social CRM strategy derived from the literature is designed and tested for EIT. In the literature, there are two Social CRM strategy frequently mentioned, namely: value fusion and data-driven content marketing. This research will only focus on the data-driven content marketing strategy. Because the concept of Social CRM is still an emerging concept and there has not been any research yet for

Social CRM strategies, therefore this study is an exploratory research. The object of an exploratory study is to find out what is happening; to seek new insights; to ask questions and to assess phenomena in a new light (Saunders et al., 2011). Furthermore, quantitative research will gain insight into the manner in which Social CRM strategy has the greatest effect on participants to become involved in the network of EIT. Through qualitative research this study is trying to get a complete and detailed insight as possible.

To answer the research question, a suitable methodology need to be used. The methodology that is used during this research is a survey research. With survey research, it is possible to collect a huge amount of quantitative data from a large group of cases. By using this methodology, the researcher has more control over the study and with a relatively low cost budget, a lot of results can be obtained (Saunders et al., 2011). The method for data collection are questionnaires. For a deeper understanding of Social CRM strategies, one scenario is designed. The scenario is based on the theoretical examples provided by the paper from Järvinen and Taiminen (2016) to explain their Social CRM strategy.

3.2 Research objectives

The aim of this research is to (1) explore is a Social CRM strategy lead in practice to a sustainable community and (2) explore the values people experience during a Social CRM strategy. The goal of this research is thus to get a better understanding about Social CRM strategies and the values individuals perceive with these strategies. The results of this study should give insight in suitable Social CRM strategies for networked organizations to manage relationships with stakeholders. For EIT this study is valuable, because there is a strategy needed whereby current relationships will be enhanced and community members are triggered to become involved in the network of EIT. Hence, there is need to deepen and integrate knowledge of the most suitable way Social CRM can be intergraded with existing processes of firms and the practical usage it will bring.

3.3 Components of survey research

A survey brings together two different methodologies: sampling and designing questions for data collection (Fowler, 2014). Their combination is essential for a good survey design. During survey research, often sampling is used because it is not possible due to time constrains and resources to collect all data from a population, which is also known as a census (Saunders et al., 2011). When using samples, it is possible to get results at a low cost that are representative for the entire population. It is necessarily to allocate plenty of time to ensure that a sample is representative, to design the methodology for data collection and testing, and to get a significant response rate. Surveys collect data from units, usually individual respondents, each called an element. Researchers want to generalize from their sample to all potential elements, called a population (Dooley & Vos, 2009). To draw a sample in a representative way, it would be ideally to have a list of all elements in the population. However, this is seldom the case and researchers have to work with a sampling frame

(Dooley & Vos, 2009). When a researcher chooses to use sampling, it has to apply a suitable sampling strategy. The researcher can choose between probability and non-probability sampling (Saunders et al., 2011). The difference between these sampling methods is the fact that with probability sampling a person have an equal chance of being selected to take part in the study and with non-probability the change is not known (Saunders et al., 2011). Each of these sampling strategies have several sampling methods, as described in table 5 and 6.

Table 5 Different probability samplings methods

Probability sampling method	Definition
Simple random sampling	Equal probability of being sampled
Systematic sampling	Every n^{th} element is sampled from a sampling frame
Stratified sampling	The sampling frame is divided into several strata and from every stratum a random sample is taken
Cluster sampling	Use existing groups, e.g., city blocks or factories as clusters and from every cluster a sample is taken

Reprinted from "Social research methods" by Dooley, D., & Vos, H. (2009).

Table 6 Different non-probability samplings methods

Non--probability sampling method	Definition
Convenience sampling	Depends on the availability of respondents. In this procedure, subjects select themselves
Purposive sampling	Involves choosing elements with certain characteristics
Quota sampling	Matching a predetermined demographic profile.
Snowball sampling	Use key informants and ask them for matching respondents
Sequential sampling	The researcher picks a group of subjects in a given time interval, conducts his study, analyzes the results then picks another group of subjects if needed and so on.

Reprinted from "Social research methods" by Dooley, D., & Vos, H. (2009).

Designing questions is the second essential component of survey research. The researcher must decide the extent to which previous literature regarding the reliability and validity of questions will be drawn upon (Fowler, 2014). To measure constructs in social science, often summated rating scales are used (Spector, 1992). This technique

is used to measure attitudes, opinions, and personalities. There are several reasons why a researcher need to apply a summated rating scale to measure a construct:

- With a summated rating scale the reliability of the survey increases, because single items do not produce responses that are consistent over time (Spector, 1992).
- Multiple items improve reliability by allowing random errors of measurement to error out.
- Furthermore, single items are imprecise because they restrict measurement to only two levels (Spector, 1992). Using multiple items will increase the precision of the survey. Moreover, many constructs are broad in scope and not easily assessed with only one question (Spector, 1992). A variety of questions enlarges the scope of the measured construct.

Furthermore, there are four characteristics that make a scale a summated scale.

1. First, the scale contains multiple items that implies that multiple items will be combined to measure a construct (Spector, 1992).
2. Second, each individual item measures something that has an underlying, quantitative measurement continuum (Spector, 1992). For example, attitude can vary.
3. Third, each item has no right answer, which differentiates it from a multiple-choice test (Spector, 1992).
4. The last characteristic is that each item in a scale, is a statement, on which ratings have to be given by respondents (Spector, 1992). Respondents need to give ratings about each statement.

Hence, with every research which uses survey research, the researcher has to have a clear procedure to achieve a cohesion between the sampling method and research questions for data collection. This will enhance the accuracy and precision of the survey.

3.3.1 Error types resulting from survey research

When using survey research as methodology, the researcher has to take the survey errors into account. According to Dooley and Vos (2009), survey error can be divided along two dimensions. The first dimension includes two categories of error: random error and systematic error (bias). The second dimension includes the two major phases of the survey process: sampling and data error. In combination, these two dimensions give four types of error as summarized in table 7.

Table 7 Types of survey error

	Type of error	
Source of error	**Random**	**Bias**
Sampling	Lack of precision of survey estimates	Directionally wrong estimates
Data collection	Lack of reliability of measurement	Lack of validity of measurement

Reprinted from “Social research methods” by Dooley, D., & Vos, H. (2009).

Random error is the effect of making survey estimates imprecise and occurs in both the sampling and the data collection phases (Dooley & Vos, 2009). By change, any given sample will slightly over- or underestimate the true value in the population. These sample to sample variation is called sample error. Random error also appears in data collection. Error in this stage contributes to unreliability of measurement (Dooley & Vos, 2009). For example, a respondent might respond different on the same item at different time settings. Data collection error adds to sampling error to increase the differences among survey estimates from the same population (Dooley & Vos, 2009). Another type of error is bias and occurs when errors push the survey estimates consistently above or below the true value (Dooley & Vos, 2009). Sample bias occurs when the sampling procedure does not represent the population fairly and data collection bias occurs when individual differences in the response set lead to biased answers by for example social desirability (Dooley & Vos, 2009).

Not only random error and bias can occur in surveys. When using questionnaires as research method also bias and random error can occur. As already mentioned in the research process, this study uses questionnaires as method for data collection. Therefore, it is important to minimize the change of random error and bias in questionnaires. According to Sudman and Bradburn (1982) there are four aspects which has to be taken into account when using questionnaires, namely: individual item clarity, questionnaire length, item order and questionnaire format. The first aspect of random error and bias occurs due to unclear or badly worded items, which causes respondents to interpret the items wrong. The second issue is the questionnaire length. Often, researchers employ several items to measure a construct. However, questionnaire length may affect the cooperation of respondents. The third aspect is the order effects of items. For example, earlier questions may influence the response on later ones. Finally, questionnaire formats can increase reading and recording errors. Therefore, the questionnaire should appear uncluttered and easy to read (Dooley & Vos, 2009). Hence, researchers need to design the sampling and data collection procedures so as to minimize the change of random and bias error.

3.4 Research method: questionnaires

It is already established that it is time and budget consuming to collect data from all EIT alumni. Therefore, a survey strategy is the best way to ask the values they perceive during Social CRM strategies. The survey strategy is used because it is possible to obtain a huge amount of data from a sizeable population (Saunders et al., 2011). With the use of sampling it becomes possible to generate findings that are representation for the whole population. The survey is administered at one-point in time. Consequently, this research is a cross-sectional study since it is based on data received at a single point in time (Saunders et al., 2011).

The method for data collection are questionnaires. With the questionnaires data is collected and can be analyzed quantitatively to ensure that the data is representative for EIT. In addition, with quantitative data it is possible to analyze the relationship between variables. The questionnaire that is used during this research is based on the

upper half of the value sphere by Larivière et al. (2013), which are the values consumers experience. Despite, the value sphere has six values that consumers experience, only five values are measured during this research. Monetary value is the opportunity to choose between competing offers. Because the organization EIT is the case for study it will not be possible to test competing offers from other firms. Therefore, monetary does not fit in this research and will be omitted from the analysis.

As a consequence, this research is divided into four independent variables and one dependent variable. In this study, identity value is the dependent variable, because with this value people want to identify with the organization and become a member of their network. Identity value will thus be the performance outcome from a Social CRM strategy. Four values are used as independent variables, namely: convenience, information, social and entertainment & emotional value. With the four independent variables, it is possible to determine which values are influencing individuals to become participants in the network of EIT. Although, the values stem from one model, for this distinction is chosen, because three independent variables are passive participation and the dependent variable is active participation. Moreover, by similar reasoning as Zhou et al. (2013) informational, convenience, social and entertainment & emotional value are considered valuable and adequate variables for the prediction of identity value.

Based on the Social CRM strategies found in the literature, one scenario is developed to determine if a Social CRM strategy lead to the creation of a sustainable community for networked organizations. The Social CRM strategy tested in this study is the data-driven content marketing from Järvinen and Taiminen (2016). The five values consumers experience during a typical Social CRM strategy are transformed into statements, which represent a specific value. The statements are based upon the definition and operationalization of the values given by Larivière et al. (2013). The questionnaire that is used during this research can be found in appendix 1.

However, survey research has some weaknesses such as the use of a standardized questionnaire and the inflexibility during the research (Saunders et al., 2011). In addition, when using questionnaires there is a potential for a low response rate. This should be taken into account and triangulation might be used when a low response rate is realized. But, reaching a large population without taking too much time, effort and budget is best done with the use of a survey research.

3.4.1 Case selection

For gaining an improved understanding of appropriate Social CRM strategies for EIT, this research will use alumni from EIT as research participants. The alumni from EIT as participants are chosen since it is the best way to determine how relationships with both participants as well as prospects can be managed. Because alumni are already participants of EIT and are possible prospects for following new courses at EIT, they are the most suitable cases for this research. Thus, this research only takes one specific stakeholder (community of EIT alumni) into account. Because it is not possible to obtain data from all EIT alumni it is not possible to use a census. As a consequence, a sampling strategy need to be used. This research used the probability sampling

strategy with the method simple random sampling. For this sampling method is chosen because everyone has the same change of participating in the research. The sampling frame that is used are the EIT alumni groups on Facebook and LinkedIn. When posting in the different groups on LinkedIn and Facebook, all group members will be notified about this research and everyone have an equal chance to fill in the questionnaire. However, when using alumni from EIT groups on Social media as research participants, first permission need to be granted to access these groups.

3.4.2 Procedure

The first step in this research for using questionnaires, was a literature review to determine the available Social CRM strategies in the literature. There were two Social CRM strategies found, namely: (1) value-fusion and (2) data-driven content marketing. Based on the latter, this study will only focus on one Social CRM strategy and therefore limit the scenario to one. For this amount is chosen because when using questionnaires online, participants do not want to spend much time for it. In this case, the data-driven content marketing strategy is used as scenario. The scenario will be operationalized into an online questionnaire based upon the literature. Furthermore, items are used, representing the five values from Larivière et al. (2013) which consumers experience during a Social CRM strategy. These items are based on the definition and operationalization from Larivière et al. (2013). In total, 11 items are used to measure the five values, this to ensure the construct validity. The questionnaire is developed online with the tool Google Forms. With this software, it is possible to easily create and design questionnaires and provide simple ways to analyze the data. The alumni from EIT are contacted to participate in this research. This is done in the form of a message that were posted in the EIT Alumni groups on Facebook and LinkedIn. In total, 238 alumni from EIT has filled in the questionnaire. Considering the sampling frame of approximately 3.000 alumni, the sample size can be considered valid because people are not always on Facebook or LinkedIn and might not have seen the post to participate in this research.

3.4.3 Reliability and validity

When doing research, it is important to establish the reliability and validity of the study (Dooley & Vos, 2009). A reliable research indicates the extent to which measurements are free from the influence of random factors (Dooley & Vos, 2009). Put differently, reliability indicates the consistency of repeated measurements. This research made use of questionnaires. To improve the reliability, the questionnaire were standardized for every respondent. As a consequence, when another researcher is repeating this research with the same questionnaire, would yield the same results. In this case, the Cronbach's Alpha is used to calculate the consistency between the five different values of the value sphere by Larivière et al. (2013), which were measured with the questionnaire. The Cronbach’s alpha values per construct are presented in table 8.

Table 8 Cronbach's alpha for the different constructs

Construct	Cronbach's alpha	N of items	Item representing value
Convenience value	0,936	2	Q1 and Q2
Information value	0,801	2	Q3 and Q4
Social value	0,827	3	Q5, Q6, and Q7
Entertainment and emotional value	0,783	2	Q8 and Q9
Identity value	0,895	2	Q10 and Q11

Usually, a Cronbach's alpha value of 0.7 is accepted in early stages of research, whilst in line with the scientific progress higher thresholds (e.g., 0.8) should be used (Nunnally, 1978). In this case, all values are above the threshold of 0,7 and even four values are above 0,8. Therefore, this questionnaire as measurement instrument can be considered as reliable for measuring the five different values.

Furthermore, to validate the reliability of the five values even more, all items were analyzed using confirmatory factor analysis. As already mentioned, in this study four independent and one dependent variable with in total 11 items were used. A confirmatory principal component factor analysis using the varimax rotation showed a Kaiser-Meyer-Olkin value of 0.906. This value indicates that the data is suitable for factor analysis. The varimax rotation completed in 6 iterations and the results are shown in table 9.

Table 9 Confirmatory principal component factor analysis

	Components				
	1	2	3	4	5
Convenience1	,878				
Convenience2	,887				
Information1			,540	,571	
Information2				,838	
Social1					,805
Social2					,802
Social3					,906
Entertainment1			,807		
Entertainment2	,623				
Identity1	,549	,520	,528		
Identity2			,591		

According to Hair, Black, Babin and Anderson (2010) factor loadings of ± 0.30 to ± 0.40 are minimally acceptable, but values greater than ± 0.50 are generally considered necessary for practical significance. Therefore, only factor loadings above 0,5 are used in this analysis. From the analysis, it becomes clear that convenience, information and social value are values that load on different components. Although, information1 also load on component 3. Furthermore, there is ambiguity between the factor loadings of

entertainment and identity value. Identity1 load on three different components and entertainment1 load on a different component than entertainment2. So, it is not clear if identity value and entertainment value are two different components. This ambiguity between these two components might be explained by the order of items. It might be that the items used for entertainment & emotional value influenced the answer on identity value. This ambiguity has to be kept in mind when analyzing the data.

Validity is to what extent are the conclusions valid (meaningful) based on the measuring instruments (Dooley & Vos, 2009). There are different kinds of validity. The first type is content validity. Content validity refers to whether the final instrument is a good reflection of the measured concept (Dooley & Vos, 2009). In this study the content validity is established through translating the research questions into topics based on the literature review. These topics cover the main aspects of each research question. The second kind of validity is construct validity. Which describes the extent if the test a good reflection of the construct (Dooley & Vos, 2009). The questionnaire is based on five values that individuals can experience with a Social CRM strategy. To improve the construct validity, the questions corresponding to a specific value are based on its definition and dimensions. The last type of validity is external validity, which is the extent the research findings can be generalized to other populations, times, and other settings (Dooley & Vos, 2009). Because this research use alumni from EIT as research participants, only the results can be generalized to the whole population of EIT alumni.

3.4.4 Data analysis

As already mentioned, 238 questionnaires are filled in by alumni from EIT. The data shall be analyzed to validate the formulated hypothesis (H1 till H5) resulted from the proposed research model. With Google Forms, it is possible to use it for simple data analysis with descriptive statistics. However, to determine if a typical Social CRM strategy result in perceived values by alumni from EIT (H1), it is not possible to reach that conclusion with descriptive statistics. Therefore, advanced statistical techniques are necessarily. The software SPSS has a huge amount of available statistical techniques to analyze the data. The data derived from the questionnaires can be exported from Google Forms into SPSS. The performance indicator that will be used to analyze the data will be a sustainable community creation, which is the dependent variable identity value. With SPSS, it is possible to make total scores per scenario. Also, total scores can be made for the five values EIT alumni experienced during reading the scenario. The data shall also be analyzed with multivariate analysis, to determine the statistical differences and relationships between the measured values (H2 till H5). To do multivariate analysis, several assumptions must be met in order to apply this technique. Furthermore, cross validation of the data is used by using not only SPSS, but also IBM Watson and ADANCO. IBM Watson is a cloud-based software tool for advanced data analytics (IBM, 2016) and ADANCO is a software tool for variance-based structural equation modeling (ADANCO, 2017). These, tools are used during the data analysis part to test the five formulated hypothesis.

4 Results

This chapter presents the empirical results from this study. Because with surveys quantitative data is collected, statistical analysis will be performed. Therefore, this chapter is dived into: total scores, multiple regression analysis and structural equation modelling to get a better understanding about Social CRM strategies and the values individuals experience during these strategies. The results from each statement used in the questionnaire can be found in appendix 2.

4.1 Total scores

In this paragraph, all items representing a construct from the survey will be combined into relevant total scores. With total scores, it is possible to compare the means per value and scenario as measured. In this case, the total score is a mean that lays between 0 and 1 and is calculated as follows: number of items representing the value multiplied by the number of possible answer possibilities. This paragraph will give insight in the first hypothesis (H1), if a data-driven content marketing strategy result in perceived values by alumni from EIT.

4.1.1 Total scores for scenario

First, the question that will be answered with this analysis is to determine if a Social CRM strategy result in perceived value (H1). Consequently, the total score for the scenario is calculated, based upon the five measured values. In this case, the scenario represented the data-driven content marketing strategy. In table 10 the relevant descriptive statistics resulted from the total scores are given.

Table 10 Descriptive statistics from the total scores for the scenario

	Total Score for Scenario
N Valid	238
Mean	,5179
Median	,5167
Std. Deviation	,17447

The total score should be interpreted as follows: a low mean indicate that the Social CRM strategy has resulted in little or none perceived value by alumni from EIT and a high mean indicate that there has been much value perceived by EIT alumni from Social CRM strategies. For the scenario used during this research, resulted in a mean score of 0,5179. Considering the range from the mean scores of 0 to 1, it can be stated that the Social CRM strategy does not result in little perceived value and the same goes for much perceived value. In other words, the data-driven content marketing strategy is between little and much perceived value. Furthermore, the median for the total score is almost identical to the mean score, with a value of 0,5167. In addition, the Standard Deviation is 0,17447. From this analysis, it can be stated that based upon the mean and median, the data driven content marketing strategy, does result in the perceived value by EIT alumni.

4.1.2 Total scores per value

The second question that will be answered with this analysis, is to what extent alumni from EIT perceive value from a Social CRM strategy and which value they perceive. Therefore, the total scores per value are calculated. In table 11 relevant descriptive statistics resulted from the total scores per value are given.

Table 11 Descriptive statistics for total scores per value

	Convenience value	Information value	Social value	Entertainment & emotional value	Identity value
N Valid	238	238	238	238	238
Item	Q1 and Q2	Q3 and Q4	Q5, Q6 and Q7	Q8 and Q9	Q10 and Q11
Mean	,5101	,5605	,4972	,5055	,4945
Median	,5000	,6000	,5000	,5000	,5000
Std. Deviation	,22215	,21237	,19304	,19533	,22012

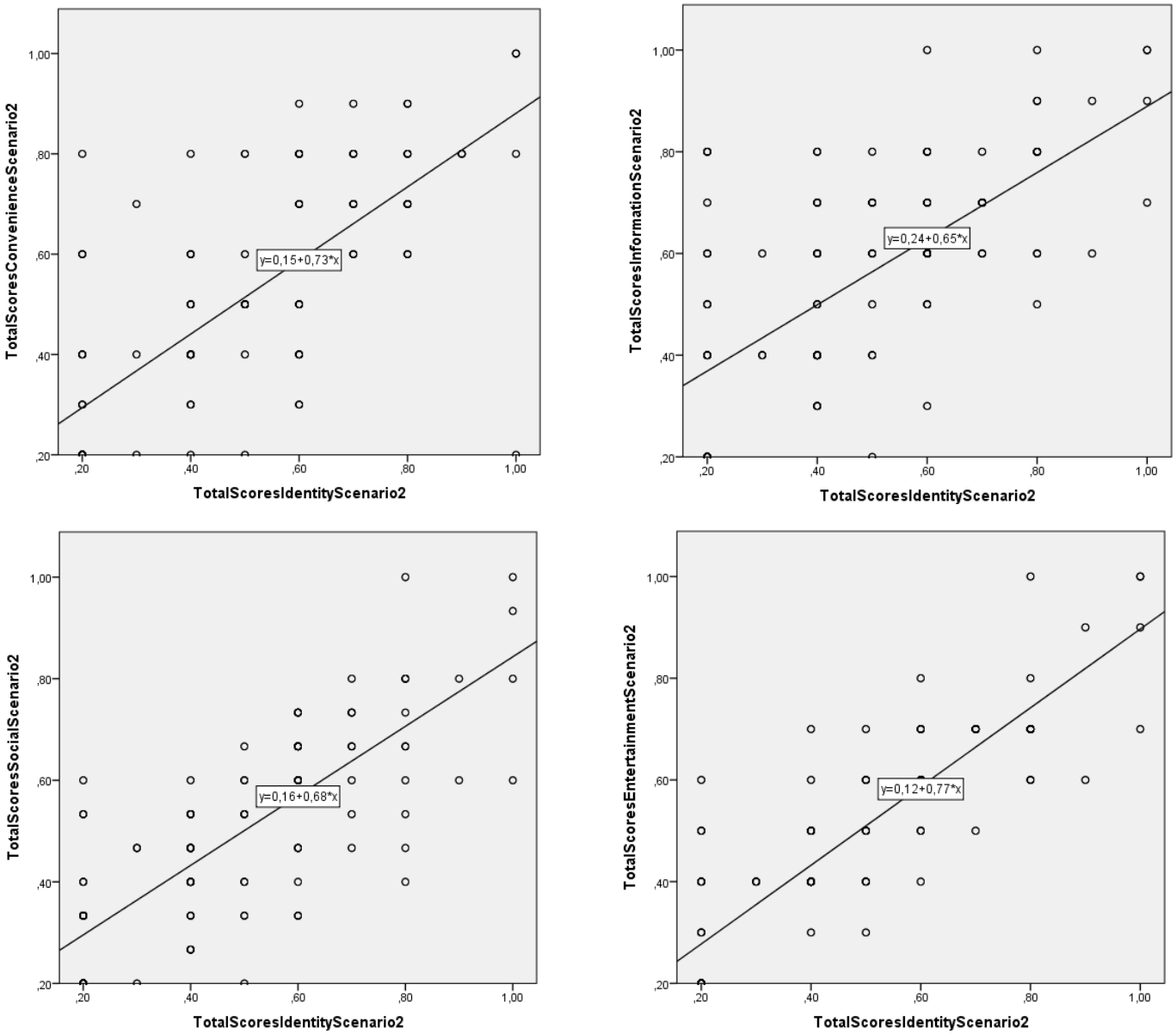
In this case, a low mean should be interpreted that people have not or experience a little bit of a specific value from a Social CRM strategy and a high mean indicate that people have experience a lot from a specific value during a Social CRM strategy. From table 11 it becomes clear that the information value has the highest mean score, followed by convenience value and entertainment & emotional value. In addition, information value has the highest median when comparing with the other values. Therefore, based upon the mean and median, information value should be considered as the most perceived value that alumni from EIT experience from a Social CRM strategy. In addition, social value has the lowest mean score. This indicate that during a Social CRM strategy social value is less perceived by alumni from EIT.

4.2 Multiple regression analysis

To gain a deeper understanding of the relationship between the values people experience during a Social CRM strategy, multiple regression analysis is used. With multiple regression analysis the linear dependency between a metric dependent variable and one or multiple metric independent variables is examined. Subsequently, several hypotheses (H2, H3, H4 and H5) will be tested to examine if there is a positive relationship between an independent variable and the dependent variable. Because identify value is the performance outcome of this study, it will be considered as dependent variable in this analysis. The other four values are the independent variables.

To start with multiple regression analysis, assumptions must be met to test the appropriateness of regression analysis. The first assumption is to test the straight enough condition (De Veaux, Velleman & Bock, 2016). This assumption is satisfied when a scatterplot looks straight. In figure 9 the scatterplots with identify value as dependent variable and the other four values as independent variables are illustrated.

Figure 9 Linearity assumption



From all four the scatterplots there is some degree of linearity between the dependent and independent variables. Therefore, this assumption is met. The next assumption is the normal population assumption, whereby the errors around the idealized regression line at each value of x follow a normal model (De Veaux et al., 2016). To test this assumption a histogram with normal distribution is given in figure 10. Furthermore, it can be tested with a P-P plot if there are some deviations from normality, this plot is presented in figure 11.

Figure 10 Normal distribution

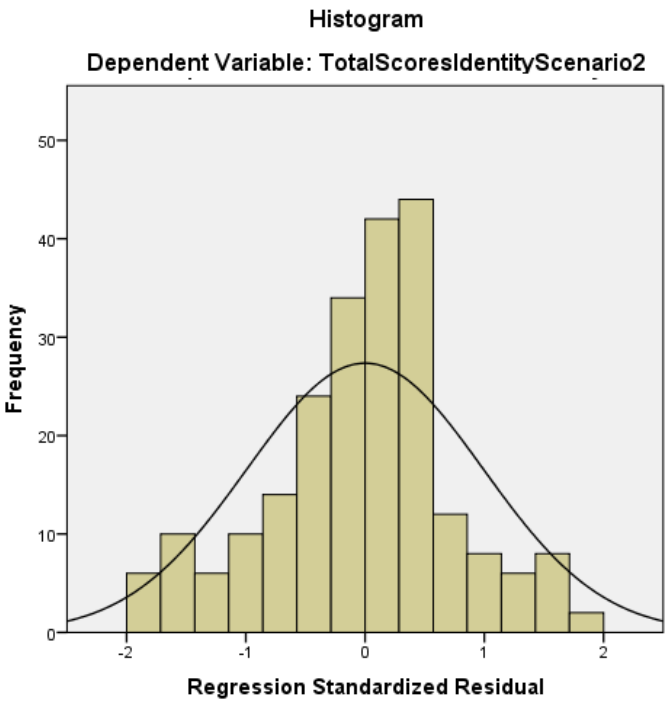
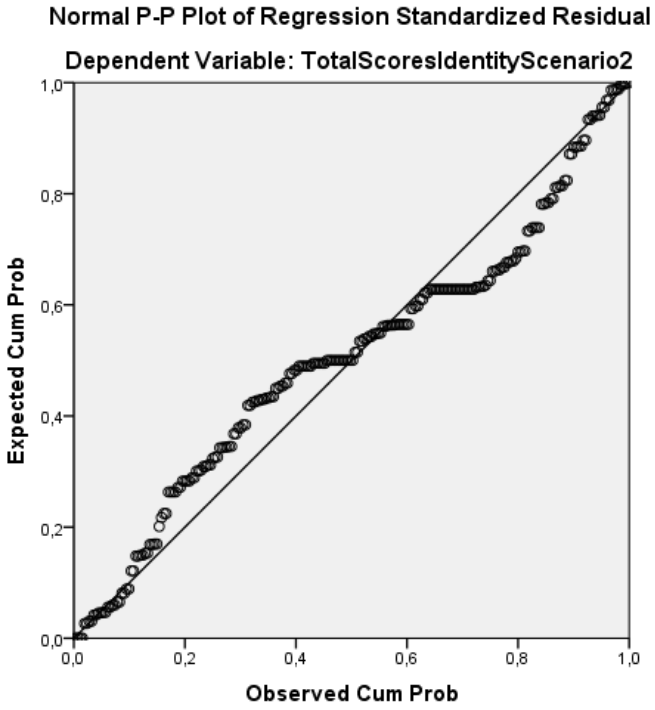
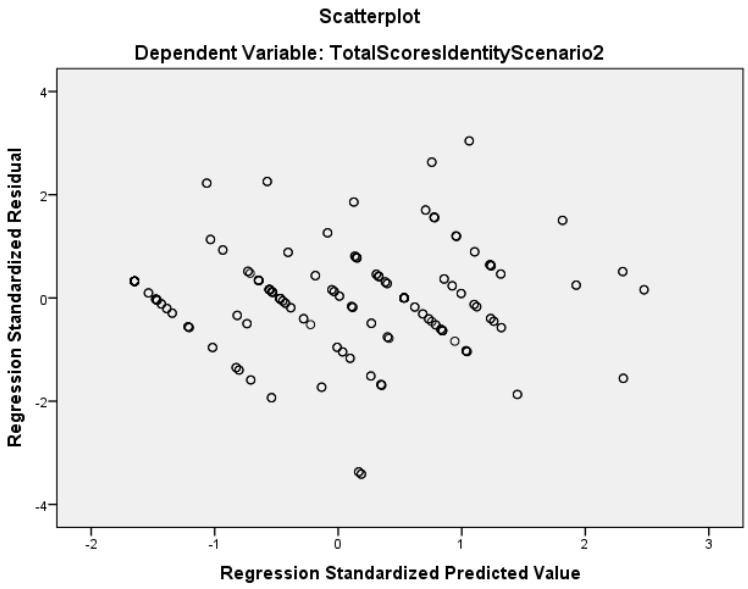


Figure 11 P-P plot



The distribution of the residuals should be unimodal and symmetric (De Veaux, et al., 2016). The histogram with the residuals for the dependent variable identity value certainly follow a normal model. In addition, the points or dots from the P-P plot must lay reasonably close to the best line of fit. The line of points or dots is reasonably straight, but there are some deviation from the best line of fit. The deviations are not far from the best line of fit, so it is not a severe violation of normality. The last condition that need to be met is the equal variance assumption (De Veaux et al., 2016). To test this assumption, a scatterplot need to be made with the standard deviation of the residuals, which is shown in figure 12.

Figure 12 Scatterplot of standard deviation from the residuals



There is no clear pattern (the data is not clustered into one point) detectable in the scatterplot, so it could be stated that the residuals are mutually independent and the condition for equal variance is met. Hence, all assumptions are met, so it is possible to continue with multiple regression analysis.

The method that is used during the multiple regression analysis is the stepwise method. This method only select statistical significant contributors to the multiple regression equation. In table 12 the independent variables are tested if they are statistical significant contributors to predict identity value.

Table 12 Statistical significance independent variables

Model	t-value	Sig.
Constant	-2,464	,014
Convenience value	5,563	,000
Information value	-,888	,375
Social value	4,448	,000
Entertainment & emotional value	10,633	,000

From this analysis, it becomes clear that information value is not a significant predictor for the dependent variable, identity value. Therefore, this value will be omitted from further analysis.

The next step is to validate the model. With the stepwise method, the independent variables are added to the regression equation based on their correlation with the dependent variable. In table 13 a summary is shown for the output of the regression model based on the stepwise method.

Table 13 Model summary

Model	R	R Square	Adjusted R Square	Std. Error of the estimate	Sig.
1	,872	,761	,760	,10793	,000
2	,890	,792	,790	,10087	,000
3	,899	,808	,805	,09709	,000

Model 1: (Constant), Entertainment
Model 2: (Constant), Entertainment and Social value
Model 3: (Constant), Entertainment, Social and Convenience value

The model summary above shows that model 1 with only entertainment value explains 76% of the variance in identity value. Including the social and convenience value to the regression model, the value of R Square rises to 0,808. This means that this model explains 80,8% variance in the dependent variable identity value. This also means that 19,2% of the variance in identity value is explained by other factors. However, when adding the convenience value to the equation, the value of R Square minimally goes up, nevertheless convenience value is a significant predictor for identity value. There

is no clear theory why the R Square value is so high. (1) First of all, there is ambiguity between the factor loadings of entertainment and identity value. It is not clear if identity value and entertainment value are two different components. This might explain why the R Squared value of only entertainment value as predictor for identity value has a high value of 0,761. (2) Secondly, the three independent variables and the one dependent variable can be divided by passive of active participation as was used to divide the value sphere by Larivière et al. (2013). The three significant independent variables are active participation and the dependent variable is passive participation. These values stem from one model, and therefore might result in a high value of R Squared. (3) Thirdly, one other assumption might be that there is covariation between the variables. To test this assumption, the correlation and covariance between the variables are measured and shown in table 14.

Table 14 Correlation and covariation between the variables

		Convenience value	Social value	Entertainment & emotional value	Identity value
Convenience value	Pearson correlation	1	,603	,686	,727
	Sig.		,000	,000	,000
	Covariance	,049	,026	,030	,036
Social value	Pearson correlation	,603	1	,789	,780
	Sig.	,000		,000	,000
	Covariance	,026	,037	,030	,033
Entertainment & emotional value	Pearson correlation	,686	,789	1	,872
	Sig.	,000	,000		,000
	Covariance	,030	,030	,038	,037
Identity value	Pearson correlation	,727	,780	,872	1
	Sig.	,000	,000	,000	
	Covariance	,036	,033	,037	,048

Between the variables there are high correlations and some covariations. The correlations between the variables range between 0,6 to 0,8. However, the values for covariation are not high. The sign of the covariation is positive, indicating a positive relationship (y increases as x increases). Thus, it can be stated that there are positive covariations between the measured variables. On the contrary, it is not possible with SPSS to calculate the exactly strength of the covariation between the variables.

The last step of multiple regression analysis is to evaluate each of the independent variables. This to determine which of the variables in the model

contributed the most to the prediction of the outcome. This can be done with a coefficients table, which is shown in table 15.

Table 15 Coefficients

	Unstandardized B	Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	95% Confidence interval	
						Lower bound	Upper bound
Constant	-,052	,019		-2,765	,006	-,089	-,015
Entertainment	,628	,058	,557	10,787	,000	,513	,743
Social	,216	,039	,218	5,494	,000	,139	,294
Convenience	,238	,054	,209	4,433	,000	,132	,344

In this case, the largest Beta coefficient is 0,628 and comes from the entertainment value. This means that this variable makes the strongest contribution to explaining the outcome when the variance is explained by all the other variables in the model and that is controlled for. Next, the convenience value has the largest Beta coefficient followed by social value. For each of these variables the statistical significance for their contribution can be tested. When using an alpha of 0,05 as threshold, all p-values are below that threshold, so all variables have a statistical significance unique contribution to the outcome. Hence, the linear equation of the regression line is as follows:
Identity value = -0,052 + 0,628*Entertainment + 0,216*Social + 0,238*Convenience

To cross validate the multiple regression analysis from SPSS, analysis will be done with IBM Watson Analytics. This is a cloud-based software tool for advanced data analytics (IBM, 2016). In this research, Watson's predictive strength is used to measure the explained variance in the dependent variable, identity value, which make it possible to compare the results from Watson with SPSS. The data from the total scores for the values convenience, informational, social, entertainment & emotional and identity values scored a 95 out of the 100 points for data quality, which is considered as excellent. Then, a predictive analysis is performed to test the relationships between the dependent and independent variables. Between all dependent and independent variable there is a positive correlation. The difference between the results from Watson and SPSS are compared in Table 16.

Table 16 Watson Analytics results vs. SPSS results

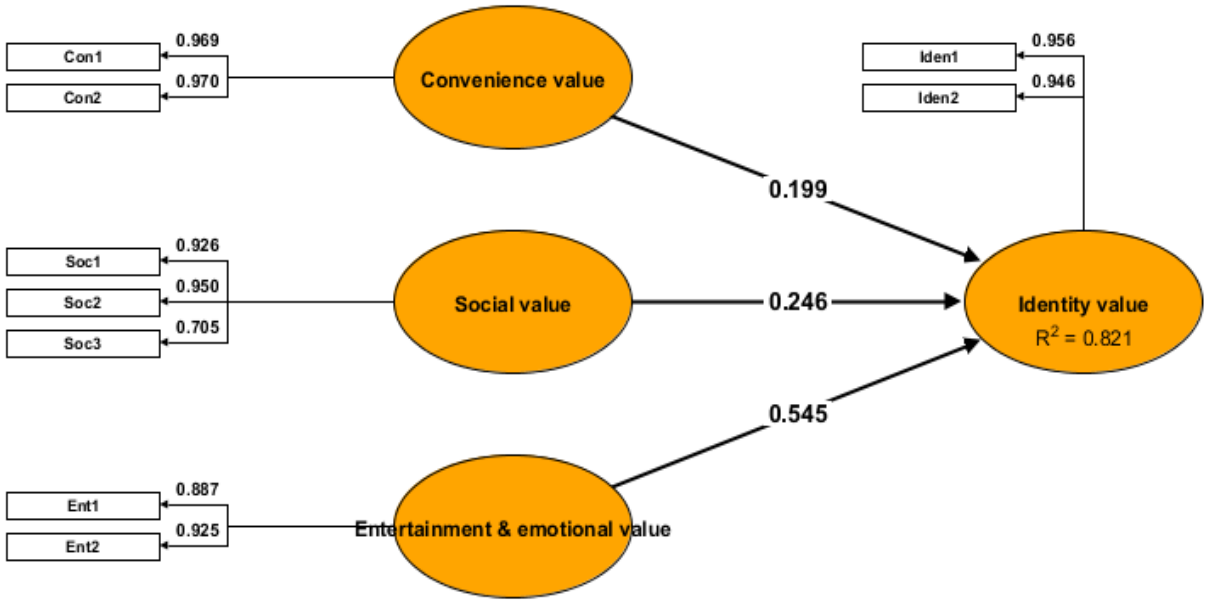
Model	Watson predictive strength	SPSS R Squared
Entertainment & emotional value -> identity value	65,7%	76,1%
Social value -> Identity value	58,1%	60,9%
Convenience value -> Identity value	49,5%	52,8%
Entertainment & emotional value + convenience value -> Identity value	77,7%	79,2%

Comparing the results from Watson with SPSS, shows that SPSS finds slightly higher values than Watson. The strongest relationship Watson found was entertainment & emotional value + convenience value to predict identity value, with a predictive strength of 77,7%. This strength is almost identical with the R Squared of 79,2% from SPSS. So, Watson does leave the third value convenience out of the model to predict identity value. In conclusion, both statistical programs indicate that there is a positive relationship between the dependent variable identity value and the independent variables entertainment & emotional value and convenience value. Because social value was found statistical significant by SPSS it is also a predictor for identity value.

4.3 Structural equation modelling

To further validate the results from multiple regression analysis, structural equation modelling will be performed. For this analysis is chosen, because the R^2 value from SPSS resulted in a high value and to further cross-validate the results from multiple regression analysis, SEM-analysis is used. In addition, because the R2 value was high it will be tested with SEM if there are significant effects between the independent variables on identity value. The value from SEM-analysis is to discover if the predictors for identity value also have an effect on identity value. This analysis, made use of the exploratory research method to find effects and explaining the variance from SPSS. The model that will be tested with SEM is the relationship between the three independent variables: convenience, social and entertainment & emotional value on the dependent variable identity value as illustrated in figure 13. Thus, in this case only hypothesis H3, H4 and H5 will be further validated.

Figure 13 Model tested with ADANCO



The first step in SEM analysis is to assess the fit of the model. The focal question that will be answered with this test, is if the correlation matrix implied by the model is

sufficiently similar to the empirical correlation matrix. This test is divided by the goodness of model fit by saturated model and estimated model. Both results are presented in table 17 and 18.

Table 17 Goodness of model fit (saturated model)

	Value	HI95	HI99
SRMR	0.1073	0.0520	0.0566
dULS	0.2237	0.1215	0.1443
dG	0.3213	0.1976	0.2072

Table 18 Goodness of model fit (estimated model)

	Value	HI95	HI99
SRMR	0.1073	0.0520	0.0566
dULS	0.2237	0.1215	0.1443
dG	0.3213	0.1976	0.2072

According to Henseler, Hubona and Ray (2016) to test the exact model fit, the recommended threshold for the difference between the correlation matrix implied by the model and the empirical correlation matrix should be non-significant ($p > 0.05$). When looking at the HI95 and HI99 values, all values are above this threshold. In addition, the approximate model fit can be tested with SRMR. The threshold value should be above 0,08 (Henseler et al., 2016). In both cases the SRMR is above the value of 0,08. So, there is a good model fit with the model that is tested. Next, the construct reliability for the four variables will be tested. Besides Cronbach's alpha, ADANCO calculate additional construct reliability values by Dijkstra-Henseler's rho and Jöreskog's rho. The results from the construct reliability analysis are shown in table 19.

Table 19 Construct reliability

Construct	Dijkstra-Henseler's rho (ρA)	Jöreskog's rho (ρc)	Cronbach's alpha(α)
Convenience value	0.9359	0.9689	0.9359
Social value	0.8934	0.8998	0.8324
Entertainment & emotional value	0.8051	0.9016	0.7839
Identity value	0.9022	0.9501	0.8953

As mentioned before, in early phases of research, a value of 0.7 is regarded as acceptable. In later phases, the threshold should be higher, for instance 0.8 or 0.9 (Nunnally, 1978). The constructs used during this research all have a value above the threshold value of 0,8 except entertainment & emotional value for Cronbach's alpha. Because the other construct reliability scores for entertainment & emotional value are above 0,8 it can be stated that the constructs reliability is in this study ensured. The third step in SEM is to assess the convergent validity. With convergent validity is meant the degree to which the operationalization is similar to (converges on) other

operationalization's that it theoretically should be similar to (Dooley & Vos, 2009). In ADANCO convergent validity is calculated by the average variance extracted (AVE) and is comparable to the proportion of explained variance in factor analysis (Henseler et al., 2016). The results from convergent validity analysis are presented in table 20.

Table 20 Convergent validity

Constructs	Average variance extracted (AVE)
Convenience value	0.9398
Social value	0.7527
Entertainment & emotional value	0.8210
Identity value	0.9050

The threshold value for the average variance extracted should be higher than 0,5 (Henseler et al., 2016). For all the four variables used in the model the average variance extracted is higher than 0,5. Hence, the convergent validity is ensured for the model that is being tested. The fourth step, is to assess the discriminant validity. According to Dooley and Vos (2009) discriminant validity is the degree to which the operationalization is not similar to (diverges from) other operationalization's that it theoretically should be not be similar to. With ADANCO discriminant validity is examined by Heterotrait-monotrait Ratio of Correlations (HTMT), which is an estimate of the construct correlation (Henseler et al., 2016). The results from the discriminant validity analysis are shown in table 21.

Table 21 Discriminant validity

Construct	Convenience value	Social Value	Entertainment & emotional value	Identity value
Convenience value				
Social value	0.6823			
Entertainment & emotional value	0.7955	0.9760		
Identity value	0.7939	0.9052	1.0377	

For large sample sizes the HTMT value should be below 0,9 (Henseler et al., 2016). The dependent variable identity value has values higher than 0,9 with social and entertainment & emotional value. Therefore, it is not possible to ensure the discriminant validity for the model. The next step of SEM is to analyze the structural model. The structural model will be analyzed based upon R-Square, path coefficients, and finally an effect overview to evaluate the model. First, the R-Square for the model will be given in table 22.

Table 22 R-Square

Construct	Coefficient of determination (R^2)	Adjusted R2
Identity value	0.8215	0.8192

The three independent variables convenience, social and entertainment & emotional have a strong relationship with identity value. The R^2 has a value of 0,8215 and the adjusted R^2 is almost identical with a value of 0,8192. This means that for 82% the variance in the dependent variable is explained by the three independent variables. Secondly, the path coefficients for the dependent variable are given in table 23.

Table 23 Path coefficients

Independent variable	Dependent variable
	Identity value
Convenience value	0.1992
Social value	0.2457
Entertainment & emotional value	0.5453

The path coefficients should be interpreted as standardized regression coefficients (Henseler et al., 2016). Entertainment & emotional value has the highest path coefficient followed by social value and then convenience value. In comparison with the regression coefficients from SPSS, entertainment & emotional value are both the highest value. However, the path coefficient for social value is higher than convenience value in ADANCO, in SPSS this result was the other way around. Furthermore, all path coefficients are positive, this indicate that there is a positive relationship between the three independent variables and identity value. Finally, to validate the structural model an effect overview is given in table 24 wherein the effect size for each effect is calculated by Cohen's f^2.

Table 24 Effect overview

Effect	Beta	Total effect	Cohen's f^2
Entertainment & emotional value -> Identity value	0.5453	0.5453	0.4959
Social Value -> Identity value	0.2457	0.2457	0.1219
Convenience value -> Identity value	0.1992	0.1992	0.1128

Entertainment & emotional value has the highest value for Beta and total effect. This is followed by social value and then convenience value. The Cohen's f^2 should be interpreted as follows: a value higher than 0.35 indicate a strong effect, a value higher than 0.15 is a moderate effect and a value above 0,02 is a weak effect (Henseler et al., 2016). In similar fashion, again entertainment & emotional has the highest value for Cohen's f^2. This variable is a strong effect. Moreover, social value and convenience value are weak effects on identity value. The last step of SEM is to test if the effects are statistical significant. To do this, bootstrapping need to applied within ADANCO (Henseler et al., 2016). Bootstrapping provides standard errors for weights in the inner (structural model), weights in the outer (measurement) models and outer (measurement) models factor loadings (Henseler et al.,2016). In addition, the mean

values across all bootstrap samples are computed. The total effects inference from bootstrapping are shown in table 25.

Table 25 Total effects inference

Effect	Standard bootstrap results					
	coefficient	Mean	Standard error	t-value	p-value (2-sided)	p-value (1-sided)
Convenience value -> Identity value	0.1992	0.2008	0.0435	4.5829	0.0000	0.0000
Social Value -> Identity value	0.2457	0.2447	0.0557	4.4128	0.0000	0.0000
Entertainment & emotional value -> Identity value	0.5453	0.5443	0.0592	9.2041	0.0000	0.0000

Using an alpha of 0,05 as threshold value, all the effects are statistical significant because $p < \alpha$. In conclusion, from the SEM analysis it can be stated that the independent variable entertainment & emotional value is the largest effect on identity value. Social value and convenience value are also statistical significant effects on identity value. All the three independent variables have a significant effect and explain for 82,15% the variance in the dependent variable identity value.

5 Conclusion and discussion

In this chapter, the main findings from the research will be explained and the research question will be answered. Furthermore, this section addresses the contribution made to the Social CRM literature in general and will give practical recommendations. Finally, this chapter presents a critical reflection on the research, in which the limitations of this study are outlined and future research recommendations are given.

5.1 Main findings

The present study explores suitable Social CRM strategies for networked organizations, which will lead to a sustainable communities. Furthermore, this research studies how the consumer values derived from the value sphere by Larivière et al. (2013) are correlated and capable of predicting the dependent variable identity value, to become participants in the network of EIT. Descriptive statistics demonstrate that the alumni from EIT during a Social CRM strategy most perceived informational value followed by convenience value and then entertainment & emotional value. In addition, social value has the lowest mean score. This indicate that during a Social CRM strategy social value is less perceived by EIT alumni. For the scenario used during this research, resulted in a total mean score of 0,5179. Considering the range from the total scores of 0 to 1, it can be stated that the Social CRM strategy data-driven content marketing is between little and much perceived value. Based upon these results, it can be concluded that the first hypothesis (H1): a typical Social CRM strategy result in perceived values by alumni from EIT is confirmed.

To test hypothesis H2 till H5, multiple regression analysis was used. All the three assumptions were met in order to apply multiple regression analysis. The stepwise method was used to discover which independent variables were statistical significant contributors to the multiple regression equation for predicting identity value. From this analysis, it can be concluded that informational value is not a significantly predictor of identity value. In comparison, descriptive statistics from the total scores showed that informational value were the most perceived value by EIT alumni. Nevertheless, because informational value was not statistically significant it was dropped for further analysis. Therefore, it can be concluded that the second hypothesis (H2): there is a positive relationship between perceived informational value and identity value cannot be confirmed.

Next, using the three independent variables: informational & entertainment, social and convenience value as predictors for identity value, resulted in a R^2 value of 0,808. Therefore, it can be stated that the three independent variables together explain for almost 81% the variance in the dependent variable, identity value. This result was cross-validated by the predictive strength of IBM Watson analytics. When comparing the results, the model from SPSS finds slightly higher values than Watson. The strongest relationship Watson found was entertainment & emotional value + convenience value to predict identity value, with a predictive strength of 77,7%. Finally, the Beta coefficients from the three independent variables in the regression equation were compared. The largest Beta coefficient was 0,628 and comes from the entertainment and emotional value. This means that this variable makes the strongest

contribution to explaining the outcome when the variance is explained by all the other variables in the model and that is controlled for. Next, convenience value has the largest Beta coefficient followed by social value. In addition, all these three coefficients were statistical significant, so they can be used as predictors for identity value, which confirms hypothesis H3 till H5.

The model from the regression equation were further validated by structural equation modelling. A model with the direct effects of entertainment & emotional, social and convenience value on identity value was used during this analysis. From the analysis, it became clear that there is a good model fit with the model that were tested. The path coefficients analysis, resulted in that entertainment & emotional value has the largest coefficient, followed by social value and then convenience value. The strength of the direct effects of the three independent variables on identity value were examined by Cohen's f^2. Entertainment & emotional is a strong positive effect and social and convenience value are weak positive effects on identity value. Finally, the last step of SEM is to test if the effects are statistical significant. To do this, bootstrapping was used. All the three the independent variables were statistically significant. So, it can be stated that entertainment & emotional, is a significant strong effect and that social and convenience value are significant weak effects on identity value, which again confirms hypothesis H3 till H5.

The research question central in this study was defined as follows: "What Social CRM strategies and tactics lead to the creation of sustainable communities for networked organizations?". In short, it can be concluded that the data-driven content marketing strategy for Social CRM results in perceived value by alumni from EIT. Furthermore, entertainment & emotional value has the largest effect on EIT alumni to become participants in their network. This might be explained by the fact that a majority of visitors does not come to the website looking for marketing messages. Rather, they are coming for content that amuse them and the feelings or affective states derived, that content generates. Secondly, social value is the next largest effect on the joinability of EIT alumni. This might be explained by that communities facilitate social interactions among its members and that individuals can interact with each other. The weakest effect on becoming members in the network of EIT is convenience value. This value is experience by individuals of achieving a task easily, speedily and effectively. So, it might be that the usability of participating in communities must be straightforward, but it is not the most important factor when deciding to join a community. Hence, it can be concluded that the perceived values from the Social CRM strategy data-driven content marketing result in the creation of a sustainable community.

5.2 Theoretical contributions

This study has a number of implications which are either derived from a review of the literature of from the findings of the empirical study. Research from Zhou et al. (2013), indicated that there are two major factors that influence the joinability of brand communities, namely: informational value and social value, which are also consumer values considered by Larivière et al. (2013) and were measured with this study. If visitors value such utilities, they may join the community, resulting in a sustainable

community (Zhou et al., 2013). In contrast, this research has revealed from empirical results that entertainment & emotional value, social value and convenience value are the factors that influence the joinability of communities. Moreover, informational value was indeed valued the most by alumni from EIT, but is not a statistically significant factor for joining a community, as was argued by Zhou et al. (2013). The theoretical model tested with ADANCO, resulted in that 82,15% of the variance in identity value is explained by the three independent variables and therefore are statistically significant contributors for the joinability of communities.

Furthermore, this research contributed to the literature by empirical testing Social CRM strategies. Findings from the literature review only indicated that there is a high rate of failure when implementing Social CRM strategies (Greenberg, 2004; Kamprtath & Roelingery, 2009) and that there is no systematic description of what suitable Social CRM strategies are for managing relationships with stakeholders or even managing relationships in a network perspective. Empirical findings suggest that data-driven content marketing strategy results in perceived value by the alumni from EIT and that these values have a significant effect on the joinability of communities.

The last contribution made to the literature, is the development of the descriptive model based upon the literature review. This model takes both customers as well as communities into account. Second, the descriptive model is not an extension for the traditional CRM concept. Rather it views Social CRM as a new business strategy influencing several or all business processes. Finally, to successfully adopt and implement Social CRM, there are capabilities needed to be present inside firms.

5.3 Practical recommendations

Results of this study may provide insights and understanding for higher education networked organizations on Social CRM, and intention to use or implement Social CRM in their firm. It is recommended for firms to use a data-driven content marketing strategy since it corresponding perceived values by EIT alumni result in the joinability of communities. To implement this strategy an organization has to align itself for its digital future. This means that a firm needs to become a data-driven or even data steering organization. In an increasingly digital world, digital transformation is not just about implementing more and better technologies. Therefore, it is recommended to develop digital capabilities in which a company's activities, people, culture, and structure are in sync and aligned toward a set of organizational goals (Kane, Palmer, Phillips, Kiron & Buckley, 2016).

Furthermore, this research found a significant model which examined the influence of the joinability of communities. Therefore, it is a highly practical recommendation for networked organizations to take this model into account when investing time to manage relationships with participants and community members to become involved in the network of the firm. The value that has the highest impact on the joinability of communities is entertainment & emotional value. It is recommended that the content or interactions among members in the community is amusing and people experience immediate pleasure from being participants in this community. The next important value is social value. For this value, it is recommended that social

interactions among members in communities is easily facilitated. It should enable community members to upload and share pictures, thoughts and experiences anywhere, anytime with other people. This will gain social approval and enhance self-image among other individuals. The last significant contributor for the joinability of communities is convenience value. A recommendation for this value is the usability of the online platform of communities. Next, cohesion between all online channels need to be established in such a way that achieving a task easily, speedily and effectively is realized in communities.

In conclusion, the main point that can be taken from the recommendations by organizations, is when managing stakeholders in a network perspective it can use a data-driven content marketing strategy to create a sustainable community. In addition, to create a community specific values such as: entertainment & emotional value, social value and convenience value need to be in the right place for people to join the brand community. With this it will be possible to manage participants as well as community members, which was not possible with traditional CRM.

5.4 Limitations of this study

During this research process, different choices have been made in order to conduct this study, which should be considered when interpreting results and conclusions. This study made an effort to explore Social CRM strategies and the values EIT alumni perceived during these strategies.

Due to its explorative nature, the research model only consists of four independent values of which three significant constructs explain 80,8% of the variance in the dependent variable, identity value. There is no clear theory why the R^2 is so high. It might be that there is covariance between the variables and the values stems from one model which contribute to the high value of R^2.

As well, the data collection method for the exploratory study has faced limitations. A first limitation relates to the appropriateness of the consumer values used to measure EIT alumni experiences from Social CRM strategies. In this study, the consumer values used in the questionnaire were based on the value sphere of Larivière, et al. (2013). Although, almost all values had a construct reliability above 0,8 questions can be raised by if there is a fit between the consumer values and the scenario used as Social CRM strategy. Moreover, only two or three items were used to measure a specific consumer value. In addition, results from factor analysis indicate that there is ambiguity between the factor loadings of entertainment & emotional value and identity value. Therefore, it might be that not all dimensions of a specific value are measured as intended.

The performance indicator for this study was identity value, which was used to measure a sustainable community. Although, identity value was used rather than the construct brand community development, identity value represents the first step in the creation of a community. With identity value people want to identify with a brand and become participants in the network of the firm. Because the purpose of this research was to manage relationships with stakeholders in a network perspective, identify value is a suitable performance indicator.

Furthermore, due to explorative nature of this research only one Social CRM strategies were tested during this study. For this were chosen, because participating rates for surveys are declining. Therefore, only one scenarios were used to increase the response rate. The same goes for the number of participants in this research. In total 238 EIT alumni completed the questionnaire. Considering that in total the alumni groups on Facebook and LinkedIn have around 3.000 members, the sample is relatively small. This has limitations with regards to external validity as results cannot be generalized to different populations. Nevertheless, the sample size can be considered valid because people are not all the time on Facebook or LinkedIn and might not have seen the post to participate in this research.

Also, the discriminant validity of this study has to be taken in consideration. From the analysis of SEM, it became apparent that some constructs diverge from each other while this theoretically is not supposed to. Therefore, it is not possible to ensure the discriminant validity for the model resulted from multiple regression analysis.

Another limitation is that this research is a cross-sectional study, which limited data based on other views. The data was collected at one period of time. Results of this study show therefore only the perception of the EIT alumni at that particular moment. At last, a questionnaire is always a self-reporting based assessment. The order and structure of the questions affects whether the reported information accurately measures the construct under consideration.

5.5 Future research

(1) The next step forward for research on Social CRM strategies for a sustainable brand community is to investigate once people are participants in the brand community, how to maintain them in the community. This can be viewed in the following example: Network -> Community -> Platform improvements. This study focused on the creation of a sustainable community and the next step is to improve the platform in order to maintain the community members.

Despite above mentioned limitations from this study, it could be a great starting point for further research. (2) Future research could shed more light on the values consumers perceive during Social CRM strategies. Extending the research model with additional constructs like: privacy, trust, quality or reputation might provide a more comprehensive model influencing the joinability of communities. (3) Next point for further research, could be using more Social CRM strategies to measure the fit between the strategy and consumers, for example the value fusion strategy. (4) In addition, a great opportunity to measure which Social CRM strategy has the greatest effect into the development of a sustainable community is to compare these strategies with each other. (5) Finally, for future research it is recommended to examine also the other side of the value sphere from Larivière, et al. (2013). In this study, only the upper side of the sphere were measured. This means that only the values to consumers were considered and the values from organizations not. Therefore, it would be a great research opportunity to explore what values organizations experience from Social CRM strategies.

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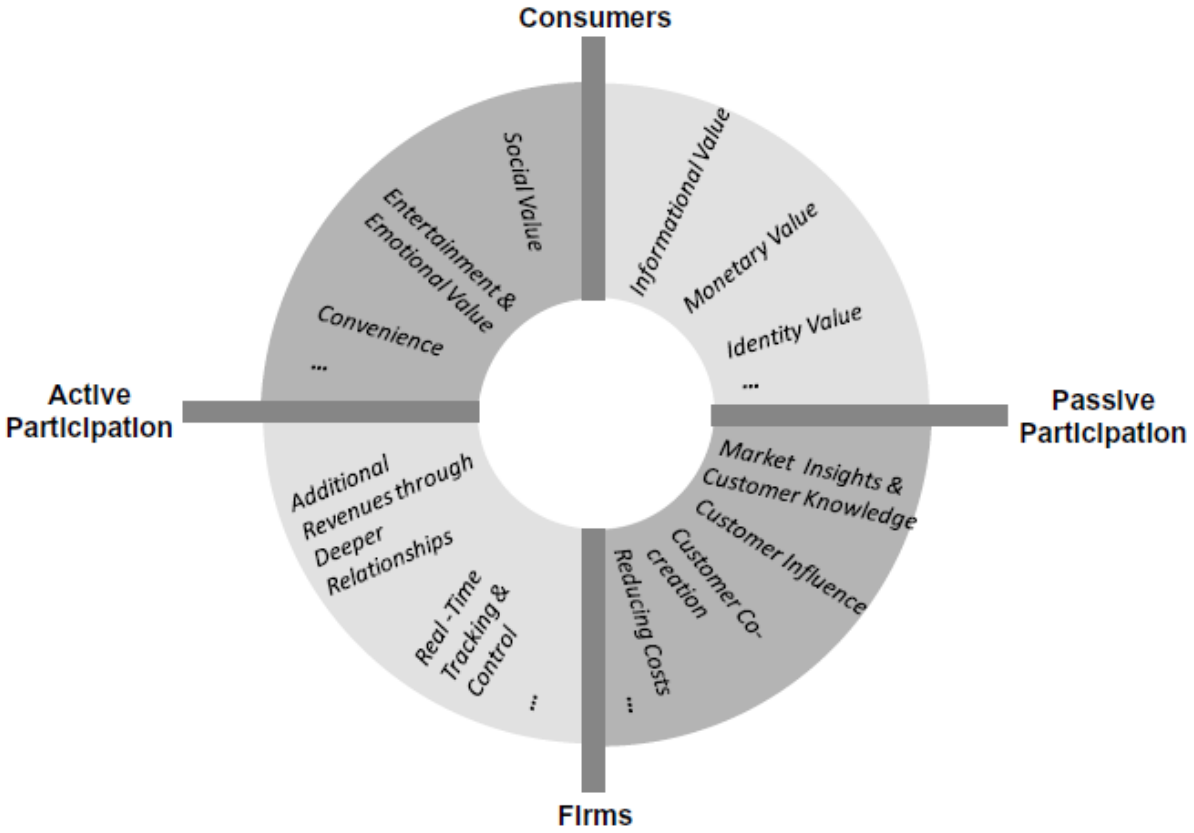
Appendix 1 Questionnaire

In this section, the questionnaire that is used to collect the necessarily data is elaborated. The questions are based on the value sphere of Larivière et al. (2013), which is presented in figure 14. This model explains what different kind of values customers and firms experience with Social CRM strategies. In addition, other questions are based on several issues derived from literature. The performance outcome from this questionnaire is to gain insight into which strategy will result in a sustainable community for EIT Digital. Furthermore, the questionnaire is divided into one scenario which will represent the data-driven content marketing strategy. The scenario is based on the theoretical examples provided by the papers from Larivière et al. (2013) and Järvinen and Taiminen (2016) to explain the Social CRM strategy.

Figure 14 Value sphere



Reprinted from "The blending of consumer and firm value in the distinct context of mobile technologies and social media", By Larivière, B., Joosten, H., Malthouse, E.C., Birgelen, M., Aksoy, P., Kunz, W.H., & Huang, M. 2013

Scenario 1 Data-driven content marketing strategy

One emerging area for social CRM marketing is in providing engaging content. A majority of visitors does not come to the website looking for marketing messages. Rather, they are coming for content that gives them news about, and support for, the products they already own. Kraft, for example, offers a website, kraftrecipes.com, and a mobile app, the iFood Assistant, which offer tips, ideas, recipes, shopping lists, and videos demonstrating how to cook with certain recipes. Kraft asks users to sign up for

weekly emails and mobile alerts, and therefore has a database of customers with whom it must manage relationships, which illustrates how content marketing requires CRM and analytical skills.

#	Questions	Answer	√	Source
1	By tracking website visitors' online behaviors (i.e., navigation paths and page views) the content of the website is personalized for every user. I do find this convenient *Convenience value*	Totally disagree		Järvinen and Taiminen (2016)
		Disagree		
		Neutral		
		Agree		
		Totally agree		
2	I do prefer websites that are personalized above standardized websites *Convenience value*	Totally disagree		Järvinen and Taiminen (2016)
		Disagree		
		Neutral		
		Agree		
		Totally agree		
3	Content from EIT in the form of supplementary documents, white papers and blogs are relevant for me *Information value*	Totally disagree		Larivière et al. (2013)
		Disagree		
		Neutral		
		Agree		
		Totally agree		
4	When EIT provide one place for all their content, this does benefit me in the future *Information value*	Totally disagree		Larivière et al. (2013)
		Disagree		
		Neutral		
		Agree		
		Totally agree		
5	If EIT provide engaging content, I'm going to share this information with members in my network *Social value*	Totally disagree		Larivière et al. (2013)
		Disagree		
		Neutral		
		Agree		
		Totally agree		
6	When EIT provide engaging content, I'm going to share my ideas and experiences in a discussion area *Social value*	Totally disagree		Larivière et al. (2013)
		Disagree		
		Neutral		
		Agree		
		Totally agree		
7	If you get an opportunity to provide content for EIT (for example one participant post a problem and another provides a solution), I'm going to do this *Social value*	Totally disagree		Järvinen and Taiminen (2016)
		Disagree		
		Neutral		
		Agree		
		Totally agree		
8	When EIT has new content on their website, I do like it to be notified about it *Entertainment and emotional value*	Totally disagree		Larivière et al. (2013)
		Disagree		
		Neutral		
		Agree		
		Totally agree		
9	I do experience pleasure when EIT provide engaging content that is personalized for my interests *Entertainment and emotional value*	Totally disagree		Larivière et al. (2013)
		Disagree		
		Neutral		
		Agree		

		Totally agree		
10	With personalized content from EIT, I'm going to actively follow new content in the community *Identity value*	Totally disagree		Larivière et al. (2013)
		Disagree		
		Neutral		
		Agree		
		Totally agree		
11	With relevant and engaging content, I do become more involved in the network of EIT *Identity value*	Totally disagree		Larivière et al. (2013)
		Disagree		
		Neutral		
		Agree		
		Totally agree		

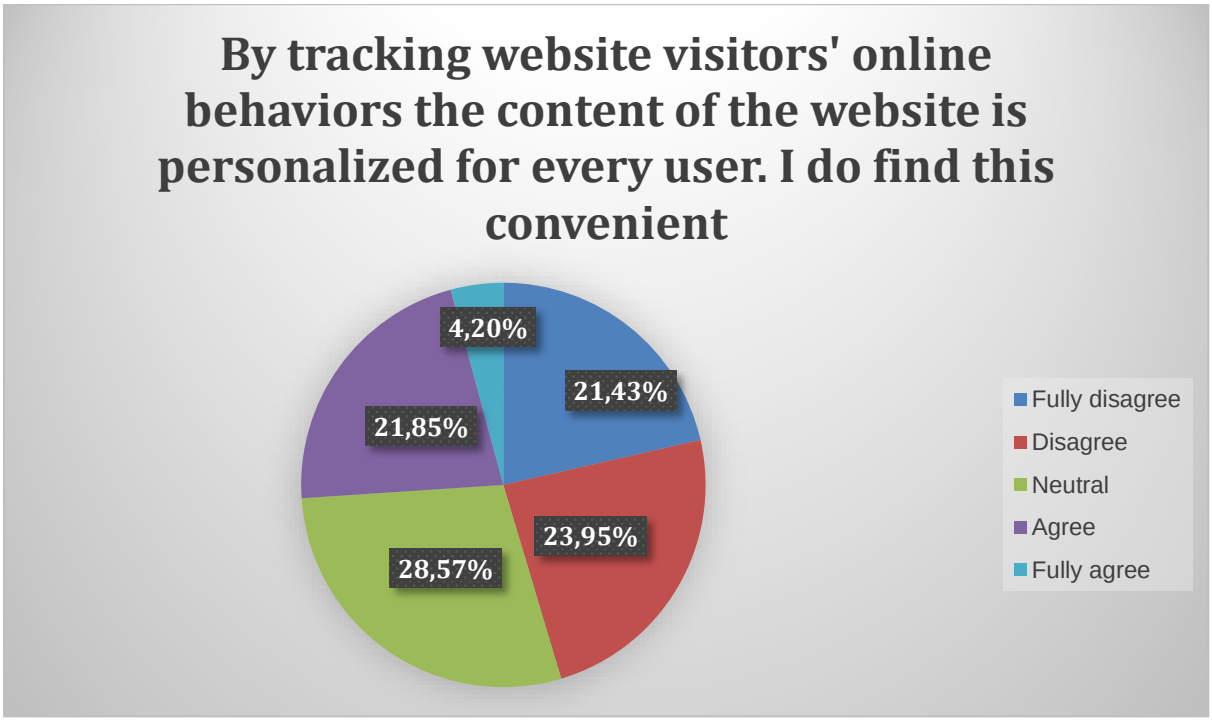
Appendix 2 Results from questionnaire

In this chapter, all data retrieved from the questionnaire will be elaborated. In addition, relevant descriptive statistics per statement will be given.

Statement 1: By tracking website visitors' online behaviors (i.e., navigation paths and page views) the content of the website is personalized for every user. I do find this convenient

N	Valid	238
	Missing	0
Mean		2,63
Median		3,00
Std. Deviation		1,164
Minimum		1
Maximum		5

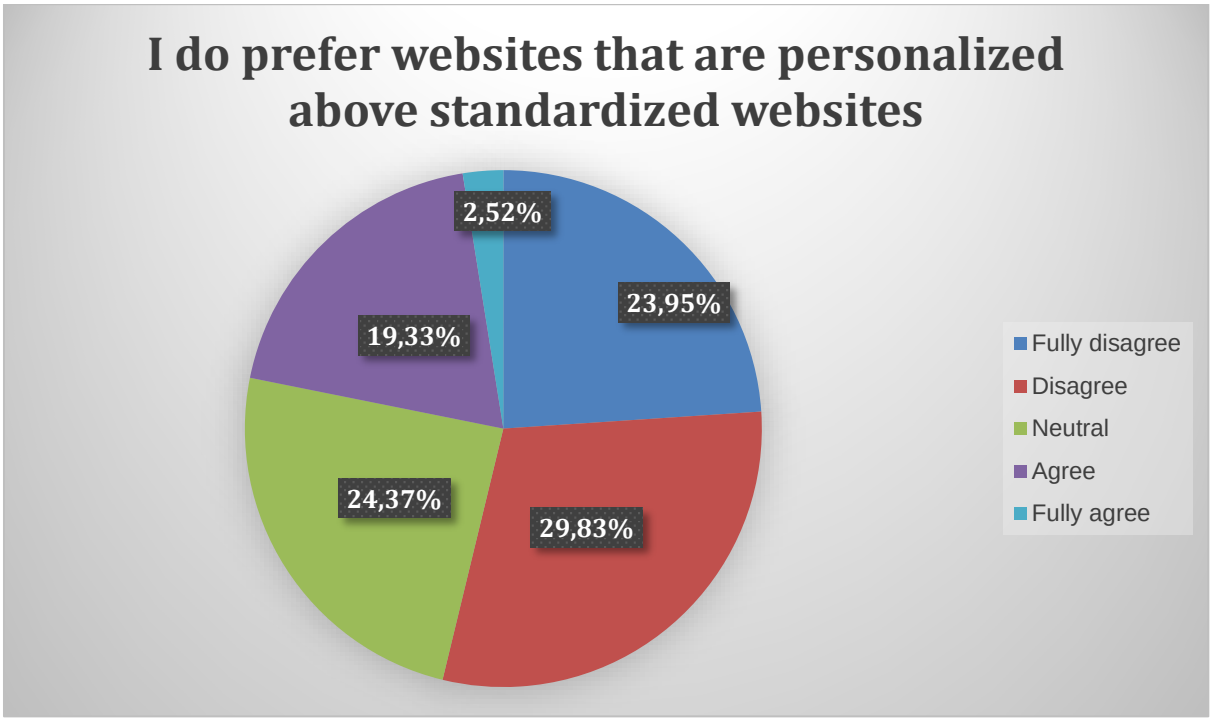
	Frequency	Percent	Cumulative percent
Fully disagree	51	21,4%	21,4%
Disagree	57	23,9%	45,4%
Neutral	68	28,6%	73,9%
Agree	52	21,8%	95,8%
Fully agree	10	4,2%	100,0%
Total	238	100,0%	



Statement 2: I do prefer websites that are personalized above standardized websites

N	Valid	238
	Missing	0
Mean		2,47
Median		2,00
Std. Deviation		1,127
Minimum		1
Maximum		5

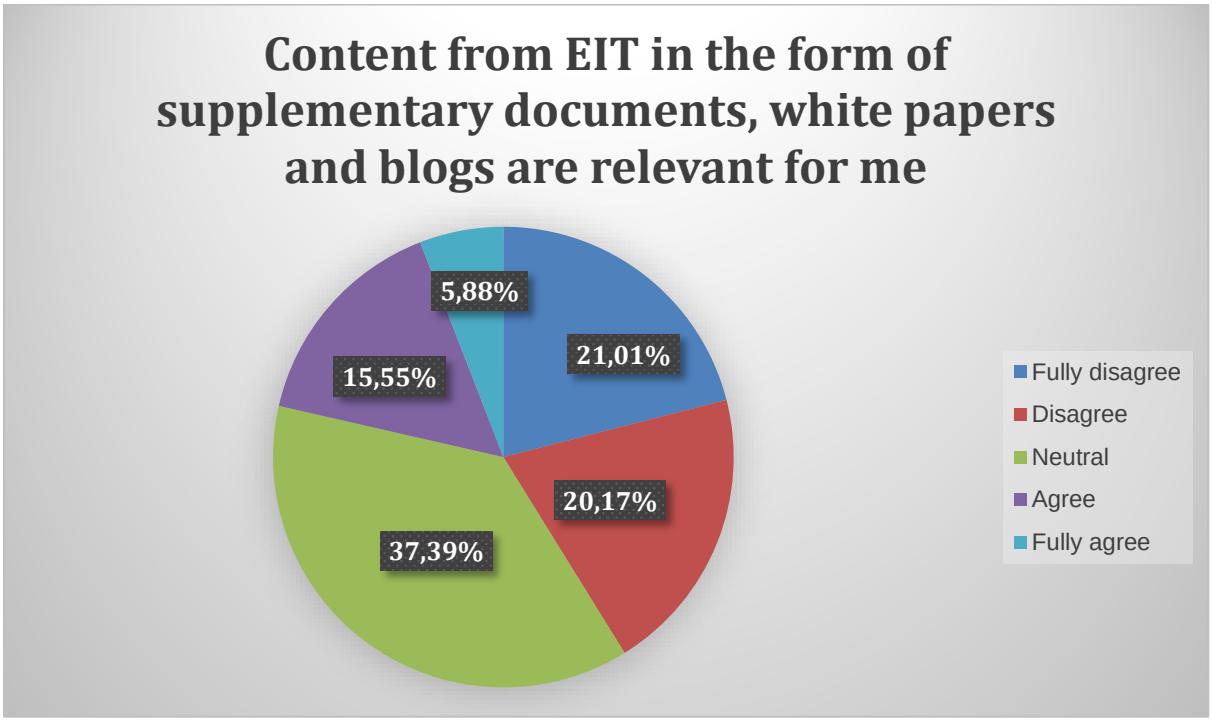
	Frequency	Percent	Cumulative percent
Fully disagree	57	23,9%	23,9%
Disagree	71	29,8%	53,8%
Neutral	58	24,4%	78,2%
Agree	46	19,3%	97,5%
Fully agree	6	2,5%	100,0%
Total	238	100,0%	



Statement 3: Content from EIT in the form of supplementary documents, white papers and blogs are relevant for me

N	Valid	238
	Missing	0
Mean		2,65
Median		3,00
Std. Deviation		1,147
Minimum		1
Maximum		5

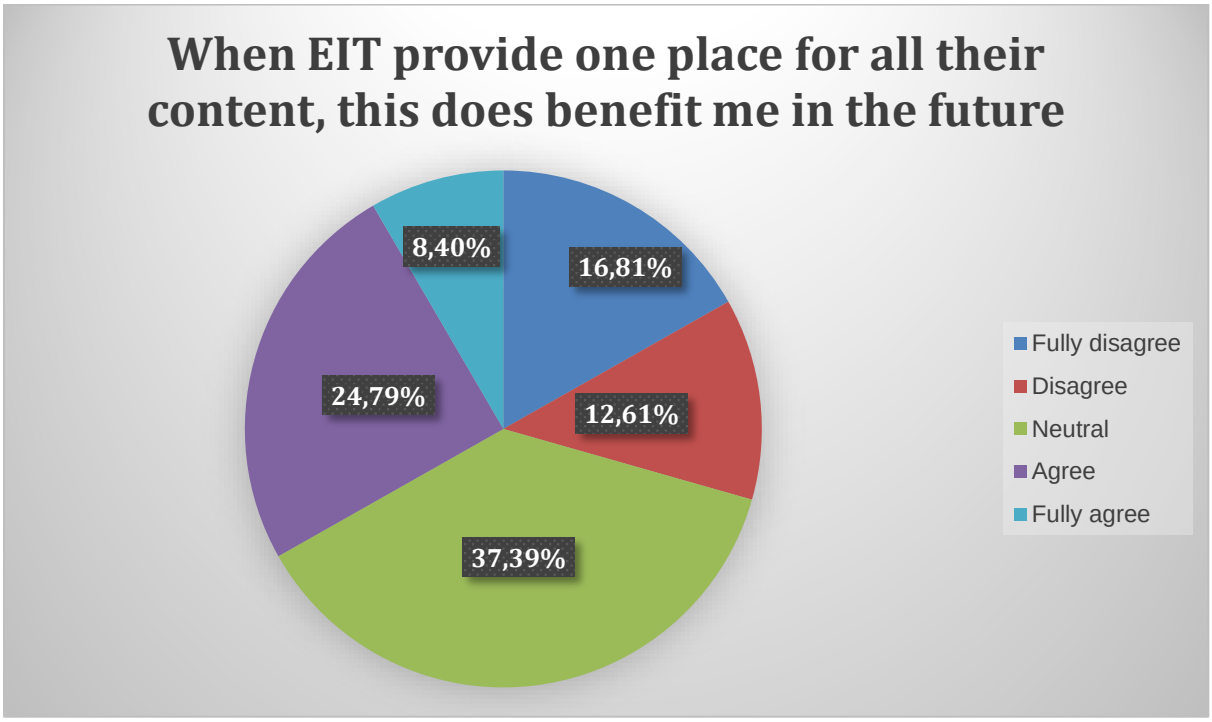
	Frequency	Percent	Cumulative percent
Fully disagree	50	21,0%	21,0%
Disagree	48	20,2%	41,2%
Neutral	89	37,4%	78,6%
Agree	37	15,5%	94,1%
Fully agree	14	5,9%	100,0%
Total	238	100,0%	



Statement 4: When EIT provide one place for all their content, this does benefit me in the future

N	Valid	238
	Missing	0
Mean		2,95
Median		3,00
Std. Deviation		1,177
Minimum		1
Maximum		5

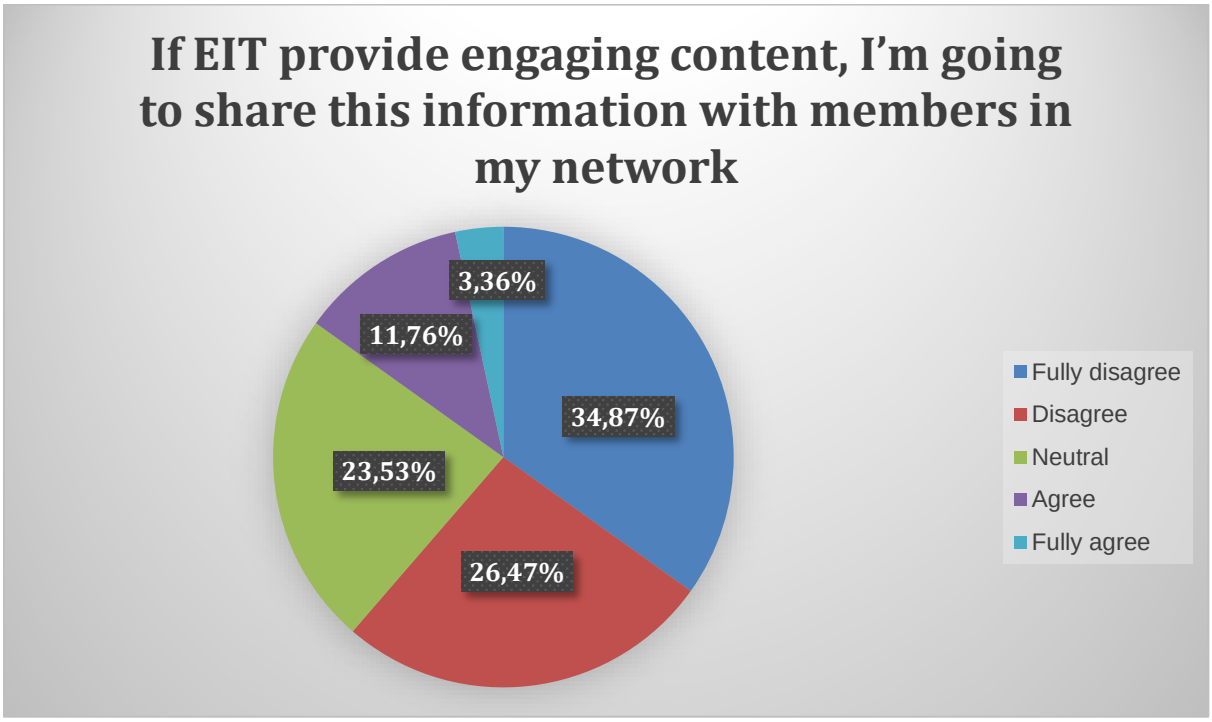
	Frequency	Percent	Cumulative percent
Fully disagree	40	16,8%	16,8%
Disagree	30	12,6%	29,4%
Neutral	89	37,4%	66,8%
Agree	59	24,8%	91,6%
Fully agree	20	8,4%	100,0%
Total	238	100,0%	



Statement 5: If EIT provide engaging content, I'm going to share this information with members in my network

N	Valid	238
	Missing	0
Mean		2,22
Median		2,00
Std. Deviation		1,146
Minimum		1
Maximum		5

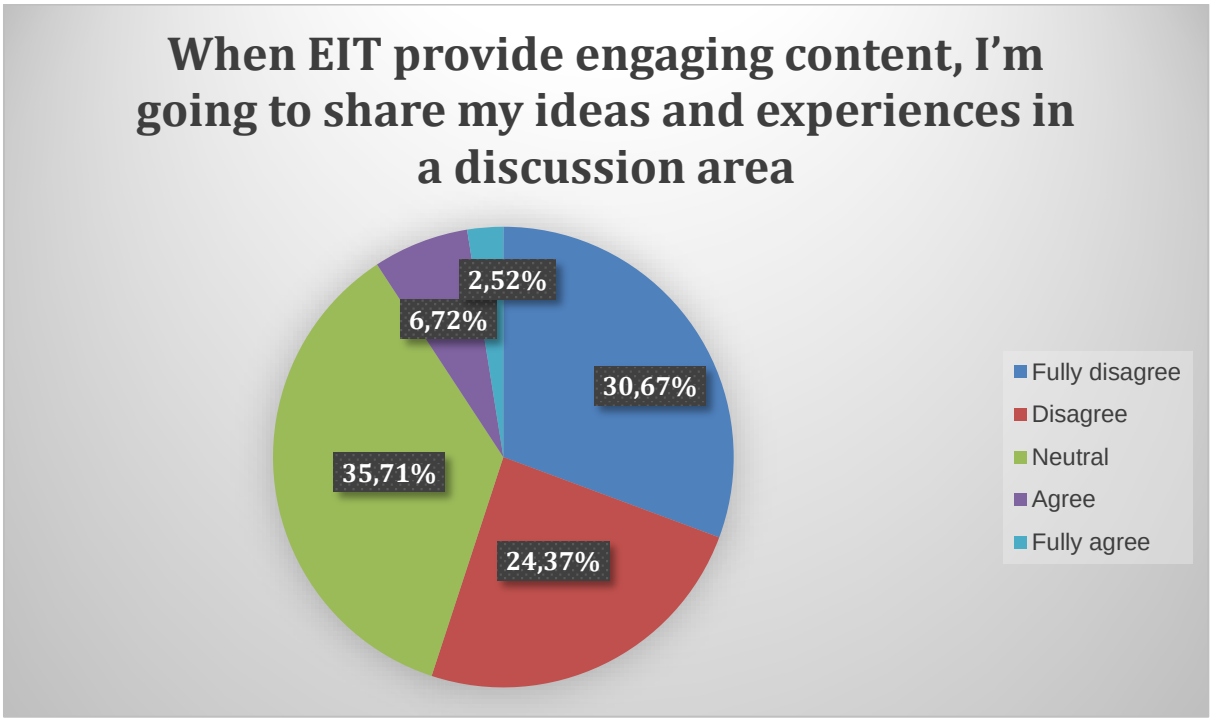
	Frequency	Percent	Cumulative percent
Fully disagree	83	34,9%	34,9%
Disagree	63	26,5%	61,3%
Neutral	56	23,5%	84,9%
Agree	28	11,8%	96,6%
Fully agree	8	3,4%	100,0%
Total	238	100,0%	



Statement 6: When EIT provide engaging content, I'm going to share my ideas and experiences in a discussion area

N	Valid	238
	Missing	0
Mean		2,26
Median		2,00
Std. Deviation		1,047
Minimum		1
Maximum		5

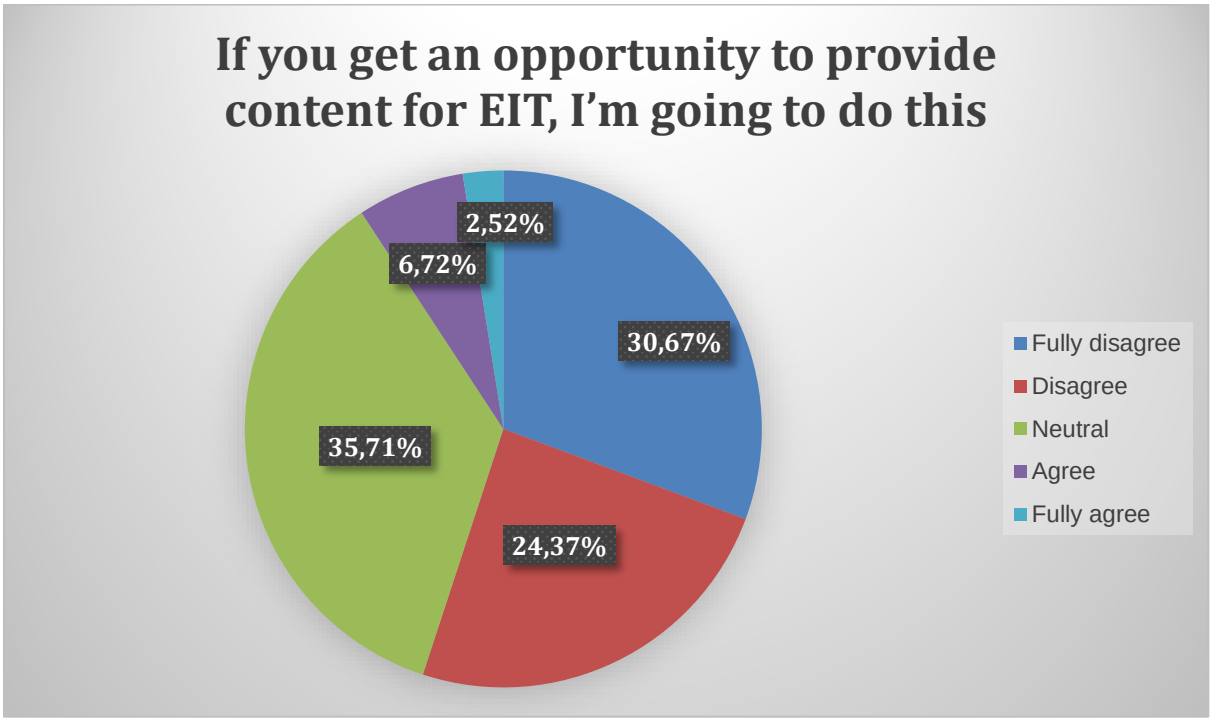
	Frequency	Percent	Cumulative percent
Fully disagree	73	30,7%	30,7%
Disagree	58	24,4%	55,0%
Neutral	85	35,7%	90,8%
Agree	16	6,7%	97,5%
Fully agree	6	2,5%	100,0%
Total	238	100,0%	



Statement 7: If you get an opportunity to provide content for EIT (for example one participant post a problem and you can provide a solution), I'm going to do this

N	Valid	238
	Missing	0
Mean		2,97
Median		3,00
Std. Deviation		1,162
Minimum		1
Maximum		5

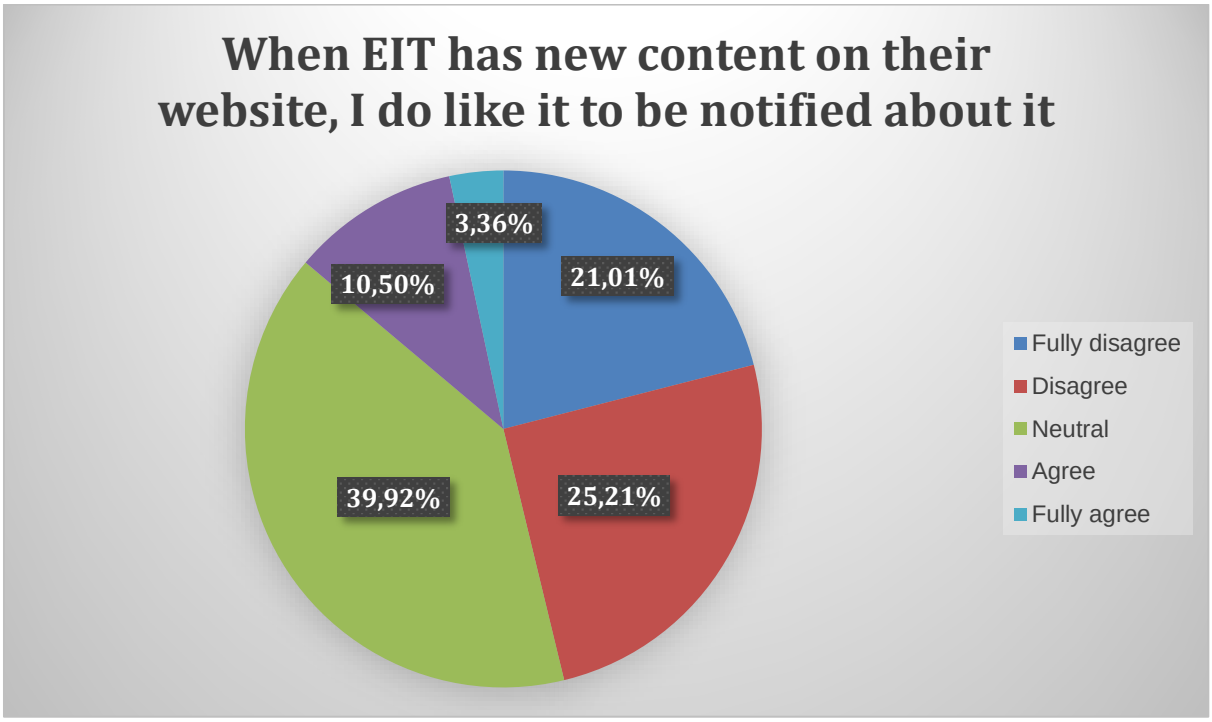
	Frequency	Percent	Cumulative percent
Fully disagree	38	16,0%	16,0%
Disagree	35	14,7%	30,7%
Neutral	74	31,1%	61,8%
Agree	77	32,4%	94,1%
Fully agree	14	5,9%	100,0%
Total	238	100,0%	



Statement 8: When EIT has new content on their website, I do like it to be notified about it

N	Valid	238
	Missing	0
Mean		2,50
Median		3,00
Std. Deviation		1,042
Minimum		1
Maximum		5

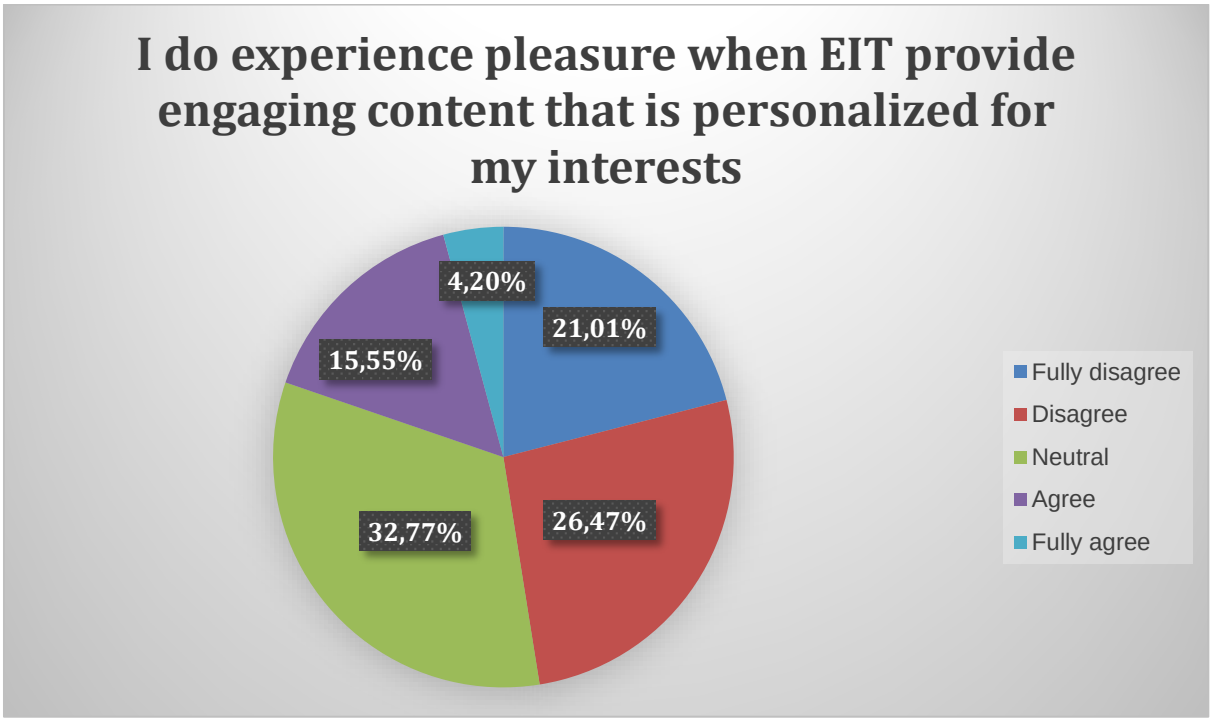
	Frequency	Percent	Cumulative percent
Fully disagree	50	21,0%	21,0%
Disagree	60	25,2%	46,2%
Neutral	95	39,9%	86,1%
Agree	25	10,5%	96,6%
Fully agree	8	3,4%	100,0%
Total	238	100,0%	



Statement 9: I do experience pleasure when EIT provide engaging content that is personalized for my interests

N	Valid	238
	Missing	0
Mean		2,55
Median		3,00
Std. Deviation		1,111
Minimum		1
Maximum		5

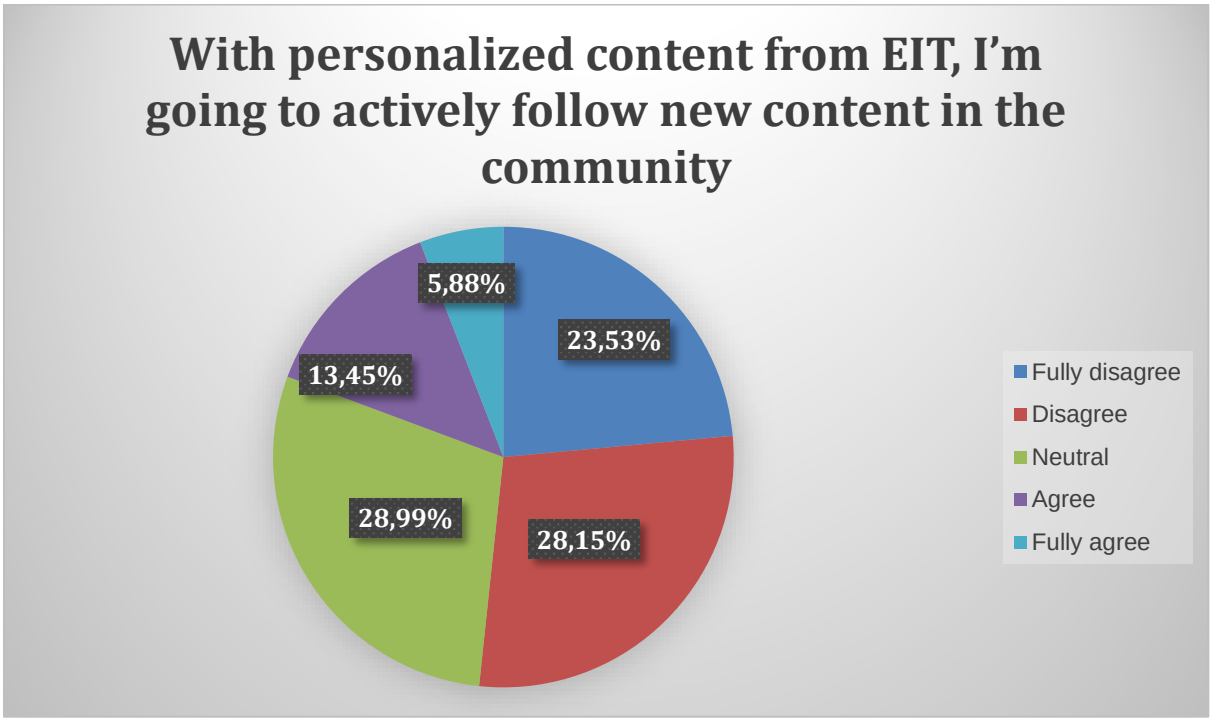
	Frequency	Percent	Cumulative percent
Fully disagree	50	21,0%	21,0%
Disagree	63	26,5%	47,5%
Neutral	78	32,8%	80,3%
Agree	37	15,5%	95,8%
Fully agree	10	4,2%	100,0%
Total	238	100,0%	



Statement 10: With personalized content from EIT, I'm going to actively follow new content in the community

N	Valid	238
	Missing	0
Mean		2,50
Median		2,00
Std. Deviation		1,161
Minimum		1
Maximum		5

	Frequency	Percent	Cumulative percent
Fully disagree	56	23,5%	23,5%
Disagree	67	28,2%	51,7%
Neutral	69	29,0%	80,7%
Agree	32	13,4%	94,1%
Fully agree	14	5,9%	100,0%
Total	238	100,0%	



Statement 11: With relevant and engaging content, I do become more involved in the network of EIT

N	Valid	238
	Missing	0
Mean		2,45
Median		2,00
Std. Deviation		1,152
Minimum		1
Maximum		5

	Frequency	Percent	Cumulative percent
Fully disagree	62	26,1%	26,1%
Disagree	62	26,1%	52,1%
Neutral	72	30,3%	82,4%
Agree	30	12,6%	95,0%
Fully agree	12	5,0%	100,0%
Total	238	100,0%