
Web 2.0 in the CRM domain: defining Social CRM

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Abstract: Businesses are becoming more customer-centric and see a need to address customers more individually. An opportunity is identified in Web 2.0 technologies. Both CRM and Web 2.0 have been researched broadly in the past years, but not their potentially successful combination, which we call 'Social CRM'. It is a CRM strategy which encourages customer collaboration and involvement. Based on empirical research we found that Web 2.0 services add value in every domain of the CRM environment, depending on the type of service at hand. Most value is added in the marketing domain of CRM. Social Networks, Blogs, and Multimedia Sharing add most value across all domains. This research defines Social CRM and presents a new model that depicts the fundamental aspects of Social CRM in four layers. We conclude with suggestions for further research in this emerging research domain.

Keywords: Social CRM; Web 2.0; Customer Relationship Management; Strategy; Social Media; Collaboration; Engagement.

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1 Introduction

Retaining good relationships with customers is vital to attracting future purchases. Especially in economic downturns, it is increasingly important to be knowledgeable about the customers in order to address their individual needs and to maintain profitable relationships. Customer Relationship Management (CRM) changed the customer strategy from customer acquisition to customer retention. In the past years, many authors researched CRM (e.g. Bose, 2002; Verhoef, 2003; Payne & Frow, 2005). According to Winer (2001), the ultimate goal of CRM is to “*transform these [customer] relationships into greater profitability by increasing repeat purchase rates and reducing customer acquisition costs*”. CRM supports marketing, sales and customer care effectiveness and efficiency (Kim et al., 2003). However, recent web technology developments have changed the static online society into an interactive society that can foster customer involvement through online interaction, rather than just retention. The aforementioned authors describe how CRM is capable of creating a more personal interaction with the customer. However, this interaction is only one-way (company-to-customer) and the ‘personal’ touch comes from the selling organization that is more knowledgeable about specific customers and can therefore address them more effectively. Wood (2008) acknowledges this by saying that CRM often only goes one direction – company-to-customer. None of the articles that were reviewed describe a two-way interaction with the customer, as would be the case in for example a Social Network such as Facebook. In two-way interactions, communication goes back and forth between the company and the customer. Web 2.0 can enable this, as this is also the place where customers profile

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themselves best. Users of Social Networks and the blogosphere often have extensive networks of friends and followers. They express themselves about what moves them, the brands they like, the news they read, and so forth. Web 2.0 can enrich the current CRM environment, but until now scientific literature omits the integration of new web technologies in CRM strategies. So called social social experiments are rarely integrated with CRM systems (Maoz, 2010). For the same reason we identify the need to conduct a study in determining a roadmap for integrating aforementioned technologies.

Frontrunners on the Web started to pick up on this new concept and discuss ideas, developments, and new services made available by Web 2.0. “*Web 2.0 is a set of economic, social, and technology trends that collectively form the basis for the next generation of the Internet—a more mature, distinctive medium characterized by user participation, openness, and network effects*” (Musser & O’Reilly, 2006). There are new innovative examples of Web 2.0 usage in the CRM domain already. Twitter, the fastest growing Web 2.0 service of 2008 according to McGiboney (2009), is already often used by companies to provide customer service. Dutch airliner KLM actively used Twitter and Facebook to update stranded passengers with the latest information regarding to the volcanic eruption in Iceland, and answered individual questions of customers regarding their cancelled flights and so forth (Mann, 2010). Another strong appearance of Web 2.0 usage in the CRM domain is by UPC, a provider of television services, broadband, and telephone services, who uses a web care team to monitor Social Networks and blogs and adequately responds to customer inquiries. Popular networking websites such as MySpace, YouTube, Facebook, and LinkedIn draw millions of users. MySpace has over 150 million users on its website, with over 35 billion page views a month (Arrington, 2009). YouTube serves 100 million videos each day and Facebook has approximately 150 million active users (Yadav, 2007). People use these websites to network, share knowledge and thoughts, and to be part of a community.

Web 2.0 is gaining an increasing impact on businesses (Högg, Meckel, Stanoevska-Slabeva, & Martignoni, 2006) and there is a rise in scientific articles covering the topic. Surprisingly enough, none of these articles link Web 2.0 to CRM. Mohan, Choi, and Min (2008) appear to have made one of the first scientific attempts to link Web 2.0 and CRM, calling it a ‘Social CRM system’. There are also a growing number of authors on the Web who describe the same concept in blogs and web articles (e.g. Wood, 2008; Greenberg, 2009; Owyang, 2010). However, as stated before, too little direction is given to determining means for setting up an environment where Web 2.0 and CRM initiatives are integrated.

This research aims to define Social CRM and to create an understanding of the concept. But the main research question that this research answers is: *What is the added value of Web 2.0 in the CRM domain?*

In order to determine the added value, we had to define the two underlying concepts of Social CRM, Web 2.0 and CRM. In sections 2.1 and 2.2, we present the fundamental aspects of Web 2.0 and CRM. In section 2.3, we present a Social CRM definition and a model that depicts the fundamental aspects of Social CRM. Section 3 explains the methodology. Section 4 shows the results. Section 5 presents a landscape model that visualizes Social CRM entities. Finally, section 6 presents the conclusions.

2 Defining Social CRM

Before we define Social CRM, we have to create an understanding of Web 2.0 and CRM. Sections 2.1 and 2.2 describe the fundamentals of Web 2.0 and CRM respectively, which later serve as building blocks for the Social CRM model that is introduced in section 2.3.

2.1 Web 2.0 fundamentals

Web 2.0 shows a variety of definitions, descriptions and principles in scientific literature and across the Web. The web has always been about connecting people in an interactive space, but the pattern of usage has changed because new possibilities have emerged. In the year 2004, Web 2.0 as it is known now, was identified. Dale Dougherty (vice-president of O'Reilly Media Inc.) coined the term in a team discussion to give a name to the new developments that were happening right after the dotcom-crash (Anderson, 2007). Before we describe the fundamentals of Web 2.0, we elaborate more upon its context.

Web 2.0 does not have a hard boundary like Web 1.0 (e.g. online vs. offline accessibility). It makes use of technologies that behave in non-traditional ways, making traditional security technologies inadequate. Applications now run on the Web as well, instead of just on the desktop. Furthermore, there are also boundary shifts in the producer-consumer relationship. The consumer has moved towards the producer side. Reinhard (2009) argues that before the rise of Web 2.0, the Web was not seen as a competitor (or threat) to broadcasting, because Web 1.0 was just an information and transaction medium, whereas now it is used as an advertising and entertainment medium. The boundary shifts also have a cause and effect relationship with privacy, because more personal information may be publicly available on the Web.

We identified seven principles, or fundamental aspects, which account for Web 2.0, see Table 1. In determining this list, we used a deductive comparison approach. They describe deductive comparison as an approach to compare different elements of definitions to each other. Each column contains the fundamental aspects for Web 2.0 as researched by different authors. The authors are chosen based on their well-known knowledge in the field (e.g. because they are referred to often). The findings are compared to each other and can then be "merged" into a new set of fundamental ideas. The seven fundamental aspects are elaborated upon below:

Typical for Web 2.0 is (1) User Generated Content (UGC). UGC stands for self-publishing, self expression, and individual creativity (Anderson, 2007; Ullrich, Borau, Luo, Tan, Shen, & Shen, 2008). In other words, more Web content is generated by users. Web 2.0 also makes use of (2) group strength (Harnessing the Power of the Crowd); because a group has more knowledge than a single individual does. Harnessing the Power of the Crowd is not the same as UGC, because UGC is about individuals and the other is about taking advantage of group-knowledge. A Wiki makes good use of group knowledge because its users provide all content. One user would not be able to fill an encyclopedia such as Wikipedia.org because of limited knowledge and time, where-as mass-scale user input made it possible. This is strongly related to network effects, as mentioned by Anderson (2007) and Knol, Spruit, and Scheper (2008). Network effects describe the increase in value of a service when more people start to use it (Anderson, 2007). Current members of a social network will benefit from new users joining in because they can now network with people they could not network with before, thereby

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increasing their social capital. This is facilitated by the (3) Architecture of Participation. Web 2.0 offers the possibility to create networks and to connect with friends by creating an architecture in which every user is participating (e.g. an Apple fan-page on Facebook). Low barriers of usage of Web 2.0 services also assist in greater participation. Knol et al. (2008) call it intuitive usability, which means the ease-of-use that the Web 2.0 services offer, enforced by the architecture of participation. Next, (4) Data on an Epic Scale is a term used to acknowledge the vast amounts of data (UGC) that continues to grow on the Web. Control over data can be the main source of competitive advantage in the information-era (O'Reilly, 2007). A part of data on an epic scale is the long tail. The long tail is about having no barriers and unlimited 'shelf space' on the Internet to store data and find people, as opposed to having artificial barriers in real life (e.g. shelf-space in a music store) (Anderson, 2007). We want to control data, even in the long-tail. The next fundamental is (5) Enabling Services. Services are "*enabling in that in their essence they are compatible and interchangeable with other services*" (Knol et al., 2008). The re-use and combinations (i.e. mash-ups) of Web 2.0 services can result in successful new services (e.g. Twitter and Facebook mash-ups in Salesforce.com (McGiboney, 2009)). (6) Lightweight Programming models refer to the agile and lean nature of web 2.0 services that facilitate easy adapting to a changing environment (Knol et al., 2008). It allows for loosely coupled systems (O'Reilly, 2007), supporting therewith the re-use of services. The business- and programming models of Gmail and Google Docs make it possible to provide continuous updates because of their lightweight programming models. Finally, the (7) Open Platform offers desktop-like functionalities (e.g. creating online backups) and portable accessibility (Ullrich et al., 2008). The "software" is above the level of a single device meaning that connections span multiple devices. For example, a connection between the web back-end through a PC to a handheld device is made possible through iTunes (O'Reilly, 2007).

The seven fundamentals apply to, but are not limited to, the following major Web 2.0 services that we identified: *Blogs, Wikis, Social Tagging, Multimedia Sharing, Syndication (RSS), and Social Networking*. A (1) blog is comparable with an online shared diary. People add new blog entries daily, monthly, or even hourly. The most recent blog-entry is listed first and each blog-entry usually gives the possibility to post comments. Part of blogging is Microblogging, of which Twitter is a well-known example. Twitter is used by individuals (e.g. Bill Gates), commercial organizations (e.g. Nike), (2) Wikis are basically web pages that anyone can edit or add content to (Anderson, 2007). Not the actual website will change, but the content, as is the case with Wikipedia.org. (3) Social Tagging is used to describe digital objects such as websites, pictures, videos, and podcasts using keywords. Next, (4) Multimedia Sharing websites include YouTube (video), Google Video (video), Flickr (photos), and podcasting (audio) sites. They make it easy for people to capture and publish media. Furthermore, (5) Syndication (RSS) is used to automatically send summarized updates to subscribers about new things that are published on a particular website through 'feed-readers'. RSS is most often translated as "Really Simple Syndication". Finally, the (6) Social Networking services include successful examples such as Facebook and LinkedIn. There are both professional and personal social networking sites available that facilitate meeting people and sharing content (Anderson, 2007). Ganley and Lampe (2009) notably investigate the 'Web 2.0 avant-la-lettre' Slashdot online community as a prototypical Web 2.0 success story based on a combination of Web 2.0 fundamentals such as Blogs, Social Tagging, Syndication and Social Networking.

We mapped the six key Web 2.0 services to the seven fundamental aspects of Web 2.0 to judge their relationships. Table 2 shows the results of our observations. An 'X' is given to show that there is a relationship between a specific Web 2.0 service and fundamental aspect. A blog for example is dependent upon user input (User Generated Content). Syndication (RSS) however, does not allow for User Generated Content and therefore the field is empty. We used and monitored services such as Twitter, Wikipedia, Del.icio.us, YouTube, RSS-feeds, and Facebook to confirm the first three columns. Subsequently, data on an epic scale, enabling services, lightweight models, and open platform, apply to each Web 2.0 service. Each service is about sharing data on the web, re-usability of services through lightweight models, and portable accessibility made available through the open platform. Furthermore, the open platform fundamental also applied to every web 2.0 service, because every service had portable accessibility and new applications (e.g. iTunes) span multiple devices to report information, rather than consuming data (O'Reilly, 2007).

Based on previous findings, we defined Web 2.0 as follows: *Web 2.0 is the social web that lets users interactively publish and share content via various devices on an open platform that enables service mash-ups.*

2.2 CRM fundamentals

In as early as 1850, businesses only needed to focus on the production of their goods because of unsaturated markets, where-as now companies need to manage a customer with its unique preferences rather than a market based on average preferences (i.e. the customer-centric firm) (Bose, 2002; Kim, Suh, & Hwang, 2003). The customer-centric orientation is about creating value for the customer and the firm to facilitate retention, which is called the dual creation of value (Boulding, Staelin, Ehret, & Johnston, 2005). Before we describe the fundamentals of CRM, we elaborate more upon its context.

The GartnerGroup defines CRM as follows: "*CRM is an enterprise-wide business strategy designed to optimize profitability, revenue and customer satisfaction by organizing an enterprise around customer segments, fostering customer-satisfying behaviours and linking processes from customers through suppliers*". Another definition by Bose (2002) includes some technology aspects: "*At the core, CRM is an integration of technologies and business processes used to satisfy the needs of a customer during any given interaction. More specifically, CRM involves acquisition, analysis and use of knowledge about customers in order to sell more goods or services and to do it more efficiently*". According to Boulding et al. (2005), CRM activities contribute to firm performance. However, only companies that accumulate data about their customers will benefit from CRM. Also, firms having customers with short lifetime value will benefit less from CRM because customer analysis is less interesting when customers do not return. In addition, firms with marketers that are not in direct customer contact may not really benefit from CRM either.

CRM is supported by CRM systems. These systems are a complex integration of hardware and software applications. Therefore, its development requires a thorough analysis of business processes (Bose, 2002). Additionally, employee engagement and change management are of critical importance in CRM implementations (Payne & Frow, 2005). These developments will become more difficult in the future because it is expected that CRM will be extended to partners and maybe even customers (Bose, 2002). However, SaaS innovations make CRM implementations easier as they only require an

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Internet connection. Nevertheless, Social CRM may require non-traditional work practices, settings, and locations. This is described as the 'alternative workplace' by Apgar (1998).

Now that we have described the context of CRM, we will briefly explain the four fundamental domains that account for CRM. Again, we used the deductive comparison approach to compare different definition elements of various (often-cited) authors to each other. Table 3 shows the results of this analysis.

CRM begins with the analysis of (1) Customer Behavior (Bose, 2002) with which we gain an understanding of the customers' needs and wants (Batenburg & Versendaal, 2004). Information Technology (IT) is used to gather data that will be used to develop information that is required to create a more personal (2) Interaction with the customer, which is the second domain. Customer interaction is about having contact with the customer (e.g. to discuss products) using various devices ranging from phone, email, a Web forum, and so forth. In CRM, interaction can be either company-to-customer or customer-to-company. Next, (3) Marketing is about the micro-segmentation of markets according to customers' needs and wants (Ryals & Knox, 2001). Based on segmentation, marketing messages can be put together and communicated in such ways that every customer feels as if treated individually. The final fundamental domain is (4) Customer Lifetime Value. Part of CRM is to keep customers involved and interested in the company in order to increase their lifetime value. A way of doing this is by offering regular news updates so customers stay up to date on the developments of a company. Due to good relationships, customers can remain profitable in the future too. Constantinides and Fountain (2008) notably investigate the technological and commercial foundations of active participation opportunities in the Web 2.0 domain from a marketing strategy perspective.

As can be seen in Table 3, Customer Satisfaction is specified on a separate row. But we consider it a part of the customer lifetime value domain because customer satisfaction is interlaced with customer loyalty.

Based on the previous, we set up a definition for CRM that is consistent with the fundamental aspects as described in this section: *Customer Relationship Management (CRM) creates an understanding of the market and customer behavior and aims to improve the customers' lifetime value through customer interaction.*

2.3 Social CRM fundamentals

According to Mohan et al. (2008), a Social CRM system combines "*the features of Web 2.0 and Social Networking with the current CRM System*". They apply a system-view approach. However, Social CRM is not just a set of technologies, but rather a company-specific strategy for creating customer involvement and building stronger customer relationships. Social CRM is a CRM strategy that uses Web 2.0 services to create engagement between the customer and the firm, which results in mutually beneficial value. Engagement is about offering new points-of-contact (or monitoring existing ones) through which engagement and involvement are encouraged. Previous research learned that customers are interested in engaging with the companies they do business with (Shimp, 2009). An excellent example would be mystarbucksidea.com, which is a place for customers to drop in ideas that would make their coffee-time experience at Starbucks even better (Kamath, 2008).

Social CRM creates a two-way interaction between parties and gives customers ownership over the conversation with the firm (Greenberg, 2009; Shimp, 2009). The strategy behind Social CRM is to be open with the customer, to be visible to them, and to give them the space and information to make intelligent decisions for themselves on how to interact with the firm (Greenberg, 2009). By following this strategy, the company can learn from its customers because they are given more freedom in interaction with the company and other customers. Companies can also search their brand or products (e.g. by using Twitter search) and learn from customers by listening to what they are saying about the company or its products. Marketing and Sales need to think “2.0” because that is what the customers do. Social CRM is about publishing content on web 2.0 services (e.g. Twitter) that the customer finds relevant, listening to what the customer is saying, and responding accordingly, all through which engagement and involvement is to be encouraged.

Unfortunately, there is not a single ‘Social CRM’ product available. Social CRM is a mash-up of (existing) Web 2.0 services, or Web 2.0 mashups, in a CRM environment. Web 2.0 services complement other sales ‘tools’ by providing additional sources of information. This means that a part of the Social CRM strategy is adding the appropriate Web 2.0 services to the CRM system, in order to transform to a Social CRM environment.

The collaborative distances between customers and firms become less significant. Web 2.0 services can assist in creating this intimacy. A part of the Social CRM strategy could be a blog operated by the CEO of a company to inform customers and to keep them involved (e.g. the blog by Jonathan Schwartz, CEO of Sun Microsystems). The CEO can inform the customer and discuss issues with them. This provides the customer with information, but also vice versa through comments. Another part of the Social CRM strategy is to use web 2.0 services to foster collaboration amongst colleagues, customers, and partners to improve knowledge sharing. As a result, the firm is more knowledgeable about the customer and the customer feels more involved in the firm. Now that we have described Social CRM we will focus on its fundamentals. Because Social CRM is a combination of Web 2.0 and CRM, we merged their fundamental aspects. This resulted in a combined list of eleven fundamentals. Some fundamentals appeared to be more visible (e.g. UGC) than others (e.g. Lightweight Models). We ordered the fundamentals from visible to less visible and clustered them as follows: *Infrastructure*, *Information*, *Customer Management*, and *Customer Engagement*, with Infrastructure containing the least visible fundamentals and Customer Engagement containing the most visible fundamentals. For each layer, 2 or 3 fundamentals are responsible. Each layer supports to the one above, i.e. infrastructure facilitates information, information facilitates customer management and customer engagement and this ultimately leads to customer retention and involvement, the outcome of Social CRM. This way of thinking led to a model for Social CRM, as can be seen in figure 1. The pyramid shape is chosen to illustrate that each progressive layer is another step up in the development of (Social) CRM. In the model we made a distinction between a ‘Concept View’ and a ‘System View’. The concept view acknowledges the idea that Web 2.0 (engagement) is something to be added on top of the pre-existing CRM environment. There is a sense of maturity in this (i.e. customer engagement through Web 2.0 is only possible when there is already customer management through CRM). The system view acknowledges technological fundamentals that facilitate the Social CRM concept. Next, we give more detailed explanations about the stages and their contents:

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- The Infrastructure layer is the fundamental system layer of Social CRM. Infrastructure includes the technical architecture of Social CRM: it includes the standard CRM system components (e.g. a database and analysis software) and three less visible technical fundamentals that belong to Web 2.0: Enabling Services, Lightweight Models, and Open Platform. As explained before, these fundamentals apply to each Web 2.0 service (see section 2.1).
- The Information layer is responsible for customer information that is stored in the CRM system and gathered from Web 2.0 services controlled or monitored by the company. The information layer is also responsible for a one-way interaction of informational and promotional materials and such.
- Customer Management is about building relationships and retaining the customer based on the acquired knowledge, this is traditional CRM.
- Customer Engagement is about establishing a two-way interaction by offering new points-of-contact using Web 2.0. The three most visible Web 2.0 fundamentals are responsible for this are: User Generated Content, Architecture of Participation, and Harnessing the Power of the Crowd. There is a thin line between the customer engagement and customer management layers.

The top of the pyramid resembles the outcome of Social CRM. Customer retention is CRM-related (Customer Management) because CRM is traditionally about retaining the customer. Customer involvement is Web 2.0 related (Customer Engagement), because Web 2.0 is about interactivity that can lead to involvement with the company through Web 2.0 (including fostering customer input). Organizations can use the Social CRM model to help determine the current CRM situation.

Based on the previous, we defined Social CRM as follows: *Social CRM is about creating a two-way interaction between the customer and the firm. It is a CRM strategy that uses Web 2.0 services to encourage active customer engagement and involvement.*

3 Research Method

The main goal of the research is to investigate the added value of Web 2.0 in the CRM domain. This field is rather unexplored territory. Therefore, it was decided to apply a qualitative research approach as qualitative research is typically used to create a better understanding of a particular phenomenon (Strauss & Corbin, 1990). Consequently, the research aims to provide new insights and models to define the Social CRM rather than universal laws or theories.

The overview in figure 2 shows the most important steps of the research project (reading from left to right), including inputs and outputs that will grant access to the next phase. The first step (a), in Figure 2, concerns an exploration of the literature. After exploring the fields of Web 2.0 and CRM and describing their fundamentals, both fields are combined, resulting in the definition and the creation of a model for Social CRM.

Step (b) of the model is the core of the research. First, it concerns the creation of an Added Value Framework. This framework consists of a matrix in which web 2.0 technologies are matched with CRM domains. The cells of framework are initially empty but should indicate the added value of a specific web 2.0 technology for a particular CRM domain. The interviews in step (b) are used to validate the dimensions of the

framework and to fill the empty cells of the framework. The interviews were also used to validate the web 2.0 and CRM fundamentals and the Social CRM model.

To collect data for validation and filling the framework, both internal and external interviews have been conducted (see Table 4 for all respondents). The internal interviews refer to interviews at the company for which one of the researchers was working at that time. However, this company was applying web 2.0, but not actively for CRM. Therefore, the internal interviews mainly focus on the perceived added value of Web 2.0 for CRM. It concerned interviews with ten employees of the Business Intelligence (BI) department of a global IT and Management Consultancy (40.000 employees, 2008 estimate) company. We chose the BI department because they have most interest in extending BI solutions with non-traditional sources, web 2.0. We addressed every function of the BI department to reach a variety of respondents with various interests.

To measure the 'real' added value we also searched for companies that were applying web 2.0 for CRM. Ten companies have been approached and three companies positively responded to the invitation to participate in the research. These companies are operating in Europe or globally and their number of employees ranges from 9.000 to 90.000 employees. These companies were specifically chosen for their pioneering positions in adopting and developing new techniques to improve customer interaction and satisfaction. It was difficult to find companies that are pursuing an actual Social CRM- or Web 2.0 strategy, but the expert companies were very knowledgeable about Web 2.0 and its use in the CRM domain. Many initiatives were still quite experimental. The interviews at these companies are referred to as the external interviews. All interviews lasted between 60 and 120 minutes and were in the native language of the respondents (Dutch). After each interview, the notes were given their most accurate translation and rewritten thoroughly. The resulting minutes were sent back to the interviewees and were asked to provide comments or remarks.

In step c) all the collected data needed to be analyzed. First, all interviewees were asked to fill out the Added Value Framework. The interviewees could place up to 24 marks (four times six) across the matrix (1 per field). The interviewees were free to set as few or as many marks as they felt were necessary. By aggregating the results in one matrix it becomes possible to see which Web 2.0 technologies add the most value to a particular CRM domain. Secondly, data was collected in the interviews to validate the Web 2.0 and CRM fundamentals and the Social CRM model and to explore Social CRM advantages. It was decided to create a big table using Microsoft Excel representing interview questions and results in separate columns. The columns were categorized as follows: Analysis Web 2.0 activities, Web 2.0 fundamentals, CRM fundamentals, Social CRM advantages, and general uncategorized results.

Finally, in step (d) conclusions were drawn based on the analysis of the data, which contributed to our understanding of Social CRM.

4 Results

In the results section, we first validate the fundamental aspects of Web 2.0 and CRM (sections 4.1 and 4.2). Based on ten internal interviews at the Business Intelligence department and three external expert interviews we can validate the findings from literature. When the fundamental aspects are confirmed, we can evaluate the combination of these aspects that resulted in the pyramid shaped Social CRM model in section 4.3.

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Lastly, in section 4.4 we determine the added value of Web 2.0 in the CRM domain through the Added Value Framework. Aggregated results of both internal and external interviewees are shown.

4.1 Evaluating Web 2.0 fundamentals

In this section we will analyze the input and feedback that the respondents gave when asked about the fundamentals that account for Web 2.0. According to one external respondent, 'Ease of use' was the only fundamental missing. However, as we have seen in section 2.1, ease-of-use is part of the architecture of participation fundamental.

Several respondents said that there is a lot of data on the Web and "2.0" can reuse that information in various ways. This is, as expert #3 mentioned, because "*Web 2.0 is about the two-way interaction. It's not just presenting information, but can really add value*". This is in line with the Data on an Epic Scale fundamental, the term used to acknowledge the vast amounts of data (UGC) that Anderson (2007) compares with the shelf-space in a music store, as mentioned in section 2.1. Furthermore, services come in different forms and representative types and they can be mashed up to form new services, some interviewees confirmed. This is due to the Enabling Services principle. In addition, a BI manager from one of the internal interviews explained that AJAX and other new techniques enable new functionalities. These techniques are responsible for the Lightweight Models. Next, Web 2.0 helps to decrease unnecessary travel time because there are many digital alternatives that still offer the required collaborative functionalities at any place. This is due to the Open Platform and the Architecture of Participation. Multiple internal respondents specifically mentioned that the Social Web cultivates participation. Of the external interviewees, one (Expert #1) said that "*Web 1.0 is static and that it is about 'printing books', where-as Web 2.0 is about online media, it is dynamic, shorter, and more powerful and it makes use of the consumer influence*". Consumer influence was also mentioned by expert #3, saying that "*it [Web 2.0] contains aspects such as Power of Many that is very important*". The latter one is a combination of the fundamentals UGC and Harnessing the Power of the Crowd. Another internal interviewee explained UGC by saying that users provide the information, where-as with Web 1.0 information is provided by the owners of websites. This strongly relates to network effects (section 2.1) as mentioned by Anderson (2007) and Knol, Spruit, and Scheper (2008).

Often, fundamental aspects could be identified in the definitions and ideas that both internal interviewees and experts presented concerning Social CRM. Hence, confirming our list of fundamentals. However, none of the respondents recognized all fundamentals. This gave no reason to alter the list and it confirms how underdeveloped the knowledge about Web 2.0 really is. The internal interviewees had an especially difficult time coming up with fundamentals that apply to Web 2.0, and provided practical examples of actual websites that carried out the fundamental aspects (e.g. as we also mentioned before: *mystarbucksidea.com*) as the experts mentioned them. This is explained by the fact that they do not use Web 2.0 yet within the company. The experts however were quite capable of identifying the added value of Web 2.0. Expert #1 specifically mentioned that they use Web 2.0 services to communicate with clients, but are also capable of "*recognizing the tone of voice and knowing how we are doing (positive, negative, good, bad)*". They could also identify an increase in firm performance, mainly through hearing that their "*customers appreciate it and it is also part of image improvement*". Expert #2

however found it difficult to put a finger on the added value, but instead said that *“if you take it all away, it will hurt but now it is difficult to say what it delivers because it is used in such regularity”*.

4.2 Evaluating CRM fundamentals

The internal respondents gave no reason to alter the fundamental CRM domains. The same was the case for the external experts. They were more knowledgeable about CRM, but saw no reason to alter the fundamental aspects of CRM either. The internal interviews confirmed all fundamentals and introduced no new ones. Some good definitions by the internal interviewees were provided such as *“continued approach of treating customers individually with a personal touch to gain insight in the relation with the client”* and *“CRM is a process to create customer involvement”*. However, someone also stated that CRM is *“often just used to collect name, address, city/place information”* and that *“you need analysis to make it true CRM”*. Also, respondents related CRM fundamentals to Web 2.0 activities, such as interaction and collaboration. This confirms that the seven Web 2.0 fundamentals and the four CRM fundamentals share attributes and can be combined.

Expert #1 recognized ‘Interaction’ as one of the CRM fundamentals, but said that CRM is not yet capable of establishing ‘one-on-one’ interactions. One-on-one interactions may take place in a Social CRM strategy, *“because this may finally help to address customers individually and to make them feel as if they are really treated uniquely”* (Expert #1). The same expert also says that their strategy defined exactly which information is required (Customer Behavior analysis) for interacting with the customer. *“We also measure customer loyalty [Customer Lifetime Value] extensively and segment [Marketing] by this”*. Interestingly, the expert claimed the importance of recognizing the fundamentals in the CRM situation in order to understand the process of relationship management and have *“anytime, anywhere availableness of CRM applications”*. This is very similar to what Bose (2002) identified as the thorough analysis of business processes required for the development of CRM, because it is a complex integration of hardware and software applications. Expert #2 said that they require a sense of improvement in *“accessibility, easier interaction, and easier presentation of information”*. Web 2.0 can offer this ease-of-use, or intuitive usability (Knol et al., 2008). Expert #3 says that CRM so far is mainly just about informing the customer and moving them to buy products, but this is not true interaction yet. We do however think that CRM fosters customer interaction to some extent as is shown in our definition (mostly from company to customer – e.g. for Marketing), but that it mainly involves analysis of customer information in order to sell more goods or services, as Bose (2002) describes in his definition. Besides the fundamental aspects, the expert interviewees were quite capable of identifying how their CRM environment has become more relevant due to Web 2.0 usage. Expert #2 said that they now have better context of what they are doing through and that they are *“more relevant for the customers because we have more knowledge about them”*. More knowledge about the customer makes customer relationship management more effective.

4.3 Evaluating the Social CRM model

Finally, all respondents were shown the Social CRM model because it contains all Web 2.0 and CRM fundamentals. The experts found the model to be very useful. One expert interviewee (expert #2) argued *“that maybe (especially in the future) the customer engagement area should be (much) bigger. Everything underneath the ‘customer engagement’ layer is rather to be seen as a commodity. There will be a focus on customer engagement”*. This implies that the Web 2.0 fundamentals are more important than CRM fundamentals. The three most mentioned fundamentals also happen to be responsible for the ‘Engagement’ layer in the Social CRM model. This may be because people cannot actually see the system-related ‘Infrastructure’ and ‘Information’ layers for which the less mentioned fundamentals are responsible. Expert #1 also identified a focus on the top of the pyramid, for getting more engagement and involvement. *“Getting more input would be ideal because then the customer is really thinking along with the company”*. Expert #3 confirmed that the representation in layers is the correct way to visualize Social CRM in a model: *“Social CRM indeed has layers, it can show different variants of what social CRM delivers”*.

4.4 Determining the added value of Social CRM

All internal interviewees apply at least one Web 2.0 service to their work (all respondents use LinkedIn). All were also eager to adopt new services, as five out of ten internal respondents became a member on Yammer after we invited them (nine out of ten are currently member). Moreover, half of all internal and external interviewees claimed to have gained work performance (e.g. in efficiency and collaboration) because of Web 2.0. Furthermore, many needs (and expected advantages) mentioned by the internal respondents were confirmed to have been realized in the ‘Social CRM’ approach of the experts.

We used the Added Value Framework to determine the added value of Web 2.0 in the CRM domain. The amount of marks set by the interviewees throughout the Framework were counted and compared to each other to determine where Web 2.0 services add value in the CRM domain. As previously mentioned, each interviewee could place up to 24 marks across the matrix (six for each CRM domain). This means that the ten internal interviewees together could set a maximum of 60 marks per CRM domain (six Web 2.0 services times 10 interviewees). Most expected advantages from the ten internal interviews reside in the Marketing (48 marks out of 60 possible) and Customer Behavior (41 marks) domains, followed by Customer Interaction (33 marks) and Customer Lifetime Value (31 marks). Of the Web 2.0 services, Social Networks (32 marks) are expected to add most value across all CRM domains, followed by Blogs (28 marks), Multimedia Sharing (27 marks), Social Tagging (25 marks), Syndication (21 marks), and lastly Wiki’s (20 marks). It is not surprising that Social Network has most counts, because LinkedIn (a social network) is the only Web 2.0 service used by everyone. In total there have been 153 marks placed (which is an average of 15 marks per interviewee) where a maximum of 240 marks would have been possible. When a field is darker, it means that there is a stronger relationship between the Web 2.0 service and the corresponding fundamental because more people have marked the same field. Lighter fields show no to weak relations.

The external interviews showed similar results in the Added Value Framework, but were often using a greater variety of Web 2.0 services. The experts identified that Web 2.0 adds most value in the Marketing (14 marks) and Customer Behavior (14 marks) domains, followed by Customer Lifetime Value (12 marks) and Customer Interaction (11 marks). They also identified that Social Networks (10 marks) add most value across all CRM domains, closely followed by Blogs (9 marks), Multimedia Sharing (9 marks), Syndication (9 marks), Social Tagging (7 marks), and Wiki's (7 marks). In total 51 marks were placed by the three interviewees where 72 marks would have been possible. On average, each interviewee marked 17 added value links. Noteworthy is that one of the marks setting the relationship between Syndication (RSS) and Customer Interaction comes from an expert, because RSS shows no customer interaction. Two internal interviewees also marked this added value link. The link was seen as an interaction of updates (RSS news-feed) to the customer.

Table 5 shows the Added Value Framework with the aggregated results of both aforementioned internal and external respondents. Marketing (62 marks) and Customer Behavior (55 marks) achieve most value from Web 2.0 services, with Social Networks (42 marks), 'Blogs' (37 marks), and Multimedia Sharing (36 marks) being most favored.

However, despite the common results in the Added Value Framework, the three expert companies applied many more Web 2.0 services in the CRM domain, both internally and externally. Figure 3 compares the usage of Web 2.0 services (categorized by service type) by all four companies, with the latter three columns representing the expert companies. The numbers in the attached table underneath the diagram represent the quantity of a specific

Web 2.0 service used by a company. The results clearly show that the expert companies use more Web 2.0 services to reach out to their (potential) customers. When investigating its usage further, we concluded that two expert companies mainly use Web 2.0 for one-way Marketing communications, where-as one expert company was more actively servicing (potential) customers on numerous blogs and social networks that are often not even operated by them. Despite the fact that each of the expert companies applies a similar set of Web 2.0 services to interact with (potential) customers, observation showed that actual usage differentiated from one-way marketing communication to two-way interactions. We based this on observing the usage of Web 2.0 services by the companies on the Web. However, most services appear to be used to communicate to the outside world only, rather than to communicate with specific customers. There is also no integration between services or actual customer data retrieval to understand customer behavior better, therewith not applying an actual Social CRM strategy.

5 Architecting the Social CRM environment

In this section we will introduce a model (based on observation at respondent organizations) that assists in architecting a Social CRM environment, the Social CRM landscape model. This is useful for businesses that have interest in setting up a Social CRM environment.

The landscape model consists of five main entities shown in a star-shape. All have been given characters to easily identify them in the text. We also added two additional entities that are not mandatory in a Social CRM environment, but are advisable and often

unavoidable. In the observations, we recognized the CRM system, Web 2.0, the company employee, and the customer. However, in some cases the company employee (e.g. manager or business unit) was also a customer for another company employee and therefore the company employee is named to an (a) Internal Customer. The (b) external customer was referred to as being an actual customer who is known in the CRM system or just a (c) consumer that can become a customer in the future. The external customer can be a person, a company, a group, and so forth. The consumer can give input and this can be used for marketing purposes that may eventually improve marketing efforts to convince the consumer to make a purchase and become a customer. Furthermore, companies seem to apply other Web 2.0 services internally than they apply externally to reach out to the customer or consumer. Companies can have internal management blogs, wiki's, social networks, podcasts, and so forth that are only accessible within the internal company domain because they may contain sensitive information or because they are not relevant for the external customer. However, this is not always the case. Nevertheless, most companies will want to create an overlap with Web 2.0 services meant for (g) internal and (e) external use. Both are linked to the (d) CRM system for information storage and requests. Additionally, we included a (f) top communication layer. This is a layer on top of the internal Web 2.0 services that only has basic communication features (e.g. a Microblog). The idea is to have an interactive tool that does not replace all other tools but rather serves as a spider in the web and can create links. Figure 4 shows the landscape model.

In the end this is a customer-centric approach, but Web 2.0 connects all, using web-based mash-up technologies as described by Mohan et al. (2008). Web 2.0 services can receive input or customer information and pass this on to the internal customer or store it in the CRM system, which on its turn can be requested by another internal customer.

The model was also shown to two expert companies, who specifically said that the landscape model seems to cover all entities involved in Social CRM.

6 Conclusion and discussion

Although the potential of Web 2.0 for CRM is recognized in the practitioner literature, the added value of Web 2.0 for CRM is not extensively researched yet. This research started with an exploration of this new field of research that is also referred to as Social CRM. First, the Web 2.0 fundamentals and the CRM fundamentals were explored and defined based on literature research. After exploring these fundamentals they have been combined into a Social CRM model (figure 1), which is a new and interactive approach towards Customer Relationship Management. It shows how more traditional *customer management* can evolve into *customer engagement* and ultimately *customer retention & involvement* by applying Web 2.0 fundamentals. Besides this model a definition for Social CRM is also proposed, which stresses the two-way interaction, or even collaboration, between the organization and its customers. Secondly, based on empirical research, we explored the added value of Web 2.0 for CRM in order to explore the potential of Social CRM for organizations.

Our research shows that Web 2.0 adds value in every CRM domain (i.e. customer behavior, customer interaction, marketing, and customer lifetime value). But our data shows that Web 2.0 adds most value in the marketing domain. When looking at specific Web 2.0 technologies the research shows that social networks, blogs, and multimedia

sharing add most value across all CRM domains. Therefore, these Web 2.0 technologies should be considered first for integration (or in web 2.0 terms: mash-up) into the CRM infrastructure of the organization. Summarizing the research contributed to a better understanding of Social CRM and provides an indication in which CRM domains specific Web 2.0 technologies can add most value.

The practical implications of this research are that it provides CRM managers as well as CRM consultants with a working definition of Social CRM to provide direction for their Social CRM strategy and to shape their Social CRM initiatives. Furthermore, it helps them to better understand the Web 2.0 fundamentals and what it can mean for CRM at their organization. Finally, it shows which specific Web 2.0 technologies add most value, based on our empirical research, and therefore should be considered first in their Social CRM initiatives. But above all, the research should lead to awareness that Web 2.0 offers great potential for CRM and that both should be addressed in an integrated manner instead of being considered as independent domains or technologies.

However, there are also limitations to this research and further research is needed in this area to create a more established body of knowledge concerning Social CRM. First of all, the research is still exploratory meaning that it defined the concept and made an inventory of which Web 2.0 technologies can add value in which CRM domains. But the added value, for example, was not measured yet. Measuring the added value deserves attention in further research and a challenge here is that companies have not developed indicators yet for measuring the success of the application of Web 2.0. Another limitation is the number of companies involved in this research which limits external validation but also limits the identification of different patterns concerning the application and added value of Social CRM. Replication in more case studies will help to overcome this limitation in the future. Nonetheless, this research is considered an important step towards more quantitative research, based on surveys, to further investigate the benefits of Social CRM. Furthermore, the Social CRM model can be considered the basis for a more elaborate maturity model that describes certain growth stages concerning Social CRM. Such a maturity model would be of great value for practitioners with respect to developing a roadmap towards Social CRM in their organizations.

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Table 1

Deductive comparison approach: Web 2.0 definition elements and fundamental domains

O'Reilly (2007)	Knol et al. (2008)	Anderson (2007)	Ullrich et al. (2008)	This research
	User generated content	Individual production and user generated content	Individual creativity	User generated content
	Network effects	Network effects, powers laws and the Long Tail		Harnessing the power of the crowd
Harnessing collective intelligence	Collective intelligence	Harness the power of the crowd	Harnessing the power of the crowd	
	Unbounded collaboration	Architecture of participation		Architecture of participation
Rich user experiences	Intuitive usability			
Data is the next 'Intel inside'		Data on an epic scale	Diverse data on an epic scale	Data on an epic scale
End of software release cycle	Enabling services		Perpetual beta	Enabling services
			Architecture of assembly	
Lightweight programming models	Lightweight models		Lightweight models	Lightweight models
Software above the level of a single device			Independent access to data	Open platform
The Web as platform	Open platform	Openness		

Table 2

Mapping Web 2.0 fundamentals to Web 2.0 service types

	User Generated Content	Harnessing the Power of the Crowd	Architecture of Participation	Data on an Epic Scale	Enabling Services	Lightweight Models	Open Platform
Blogs	X			X	X	X	X
Wikis	X	X	X	X	X	X	X
Social Tagging	X	X	X	X	X	X	X
Multimedia Sharing	X	X	X	X	X	X	X
Syndication (RSS)				X	X	X	X
Social Networking	X	X	X	X	X	X	X

Table 3

Deductive comparison approach: CRM definition elements and fundamental domains

Kim et al. (2003)	Batenburg & Versendaal (2004)	Bose (2002)	Payne & Frow (2005)	Ryals & Knox (2001)	This Research
Customer knowledge	Customer insight	Consumer behaviour	Understanding customers	Gathering and integrating information on customers	Customer behavior
Customer interaction	Customer contact	Personal interaction with customer			Customer Interaction
	Marketing	Marketing	Relationship marketing	Micro segmentation of markets to customers' needs and wants	Marketing
Customer value	CRM strategy	Customer's lifetime value	Co-create value with customers (shareholder value)	Customer retention and Lifetime value (creation). Also segmentation by expected customer lifetime value	Customer lifetime value
Customer satisfaction					

Table 4
Internal and external respondents

#	Function	Industry	Employees
1	Management Consultant		
2	Software Architect		
3	Information Architect	Business Intelligence	
4	Software Architect	department of a	
5	Practice Manager	global IT and	40.000
6	Software Engineer	Management	
7	Information Architect	Consultancy company	
8	Software Architect		
9	Principal IT Consultant		
10	Information Architect		
1	Media Relations Manager	Communications	9.000
2	Sales Manager	Software development	90.000
3	CIO of Europe	Communications and Networking	66.000

Table 5
Added Value Framework containing the aggregated results of internal and external respondents

	Customer Behavior	Customer Interaction	Customer Lifetime Value	Marketing	
Blog	9	10	8	10	37
Wiki's	8	5	5	9	27
Social Tagging	8	7	7	10	32
Multimedia Sharing	9	8	7	12	36
Syndication (RSS)	10	3	7	10	30
Social Networks	11	11	9	11	42
	55	44	43	62	

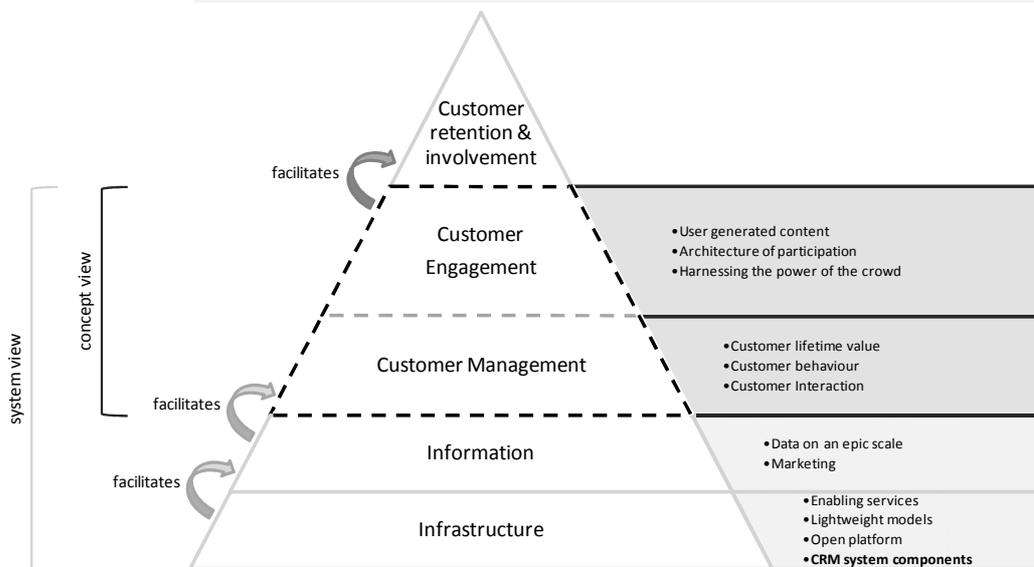


Fig. 1. Social CRM model

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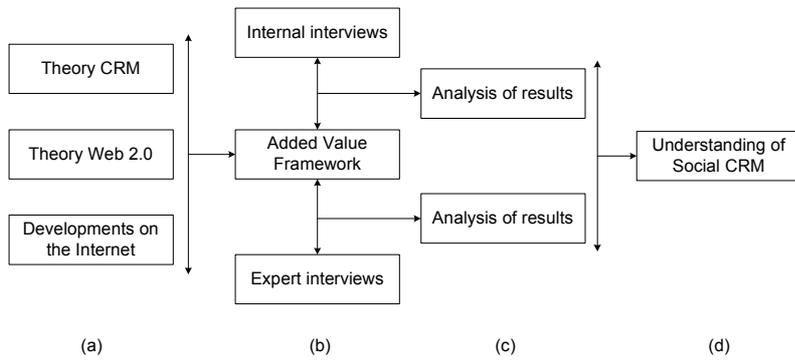


Fig. 2. Research model

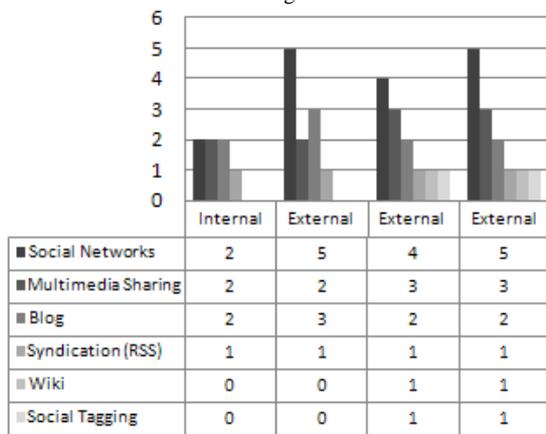


Fig. 3. Comparison of Web 2.0 behavior

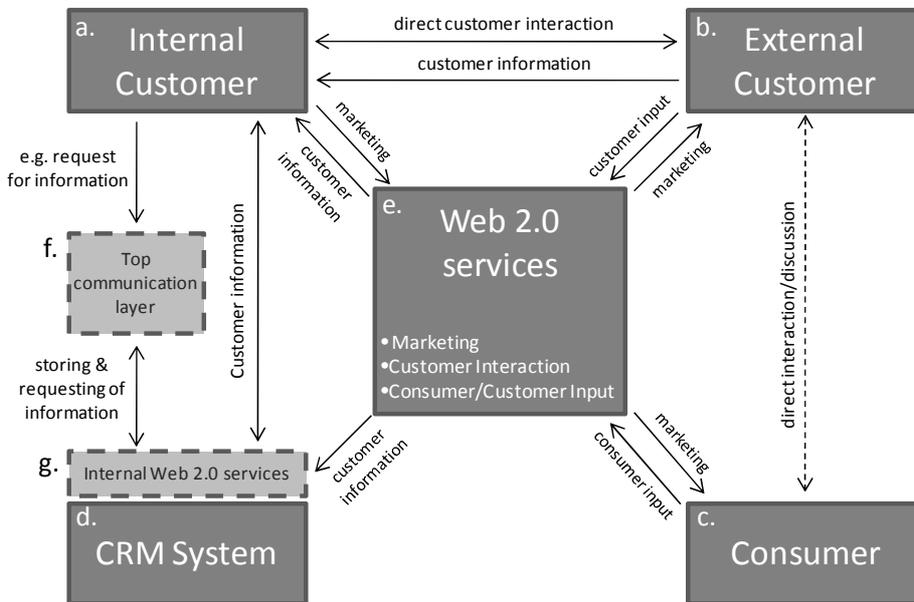


Fig. 4. Social CRM landscape model