Customer Context and Social CRM: A Literature Review and Research Agenda

Matthias Wittwer  
*University of Leipzig, Leipzig, Sachsen, Germany, Leipzig, Germany, wittwer@wifa.uni-leipzig.de*

Olaf Reinhold  
*University of Leipzig, reinhold@wifa.uni-leipzig.de*

Rainer Alt  
*University of Leipzig, rainer.alt@uni-leipzig.de*

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Customer Context and Social CRM: A Literature Review and Research Agenda

MATTHIAS WITTWER, OLAF REINHOLD & RAINER ALT

Abstract Social Media have emerged as further source of information for businesses. Data from Social Media have the potential to enable companies in better understanding and serving their customers. This requires the combination of two perspectives – the inside-out view underlying traditional CRM applications on the one and the out-side-in view inherent in the rather dynamic and situation-specific data from e.g. Social Media on the other hand. The latter form the basis for understanding customer context, which is explored in this paper. This paper contributes to existing research by developing a customer context model and related information through conducting a structured literature review. It then proposes a matching of Social Media data from Twitter to the model and discusses available data sources of context information. The overall aim is to support customer-dominant business strategies by building up on the Social CRM approach.

Keywords: • Customer Context • Customer-dominant Logic • Social Media • Social Customer Relationship Management •

CORRESPONDENCE ADDRESS: Matthias Wittwer, Leipzig University, Augustusplatz 10, 04109 Leipzig, Germany, e-mail: wittwer@wifa.uni-leipzig.de. Olaf Reinhold, Leipzig University, Augustusplatz 10, 04109 Leipzig, Germany, e-mail: reinhold@wifa.uni-leipzig.de. Rainer Alt, Leipzig University, Augustusplatz 10, 04109 Leipzig, Germany, e-mail: rainer.alt@uni-leipzig.de.

https://doi.org/10.18690/978-961-286-043-1.48
© 2017 University of Maribor Press
Available at: http://press.um.si.

ISBN 978-961-286-043-1
Introduction

The use of Social Media has increased considerably within the last years. Today, social networks such as Facebook and Twitter report 1.8 billion respectively 320 million active users (Facebook, 2017; Twitter, 2017). Users of these networks not only share their opinions on products or companies or complain about products or services. They also share personal information that are potentially relevant for an interaction with companies (Heller Baird & Parasnis, 2011; Kaplan & Haenlein, 2010; Woodcock, Green, & Starkey, 2011). For companies, using information from these sources might be valuable since they originate directly from the customers themselves. This development drives the necessity to automate the acquisition and processing of social data and to integrate it with Customer Relationship Management (CRM) applications. This interconnection of Social Media on the one and CRM applications on the other hand is referred to as Social CRM (Alt & Reinhold, 2012). This concept is a means to meet the personal agendas of a company’s customers (Greenberg, 2010) and therefore requires personalization based on additional customer information.

As today’s customers expect collaborative and personalized interactions with companies (Baumöl, Hollebeek, & Jung, 2016) most businesses declare customer-orientation as a part of their business strategy (Alt, 2016). However, there are two different notions of customer-orientation, a seller and a buyer perspective, and this research adopts the latter, which refers to the customer and his respective benefits. This perspective is also named outside-in (buyer) perspective and contrasts the in-side-out (seller) perspective (Saeed, Yousafzai, Paladino, & De Luca, 2015). This paper suggests that context information are an adequate and promising means to satisfy this expectation and to understand the higher-order needs of a customer. Context is relevant to many interaction scenarios between providers and consumers (Adomavicius, Mobasher, Ricci, & Tuzhilin, 2011; Dey, 2001) and might lead to a new understanding of the customer, who actively influences and orchestrates the configuration of products and services across multiple providers (Reinhold, Wittwer, Alt, Kirsten, & Kiess, 2017).

In addition, the current paper adopts the perspective of customer-dominant logic (CDL), an approach that places customers in the center of business activities and pursues an outside-in perspective. This requires that businesses understand their customers in terms of their respective situation that usually is not part of classical CRM applications. This paper argues that highly relevant information can be captured from additional data sources, such as Social Media. As there is relatively little research on customer context, this paper clarifies the term, derives a customer context model for Social CRM from literature and complements this model with specific context elements. Hence, the following two research questions are formulated:

- RQ1: How can the term context be defined from a customer’s perspective?
- RQ2: Which context elements and data sources are relevant within a Social CRM?
To answer the research questions, two research methods are applied: First, a structured literature review was conducted in order to clarify both the term customer context and its constituents and to finally derive a context model. Second, a mapping of the constituent context elements with Social Media data is provided. To achieve the research aim, the paper is structured as follows: The second chapter introduces the conceptual foundations, i.e. the CDL and Social CRM. Thereafter, chapter three presents the literature review and derives the model as well its elements and finally describes the matching. Chapter four discusses the findings and, finally, the paper concludes with a summary and the formulation of future research questions.

2 Conceptual foundation

2.1 Customer-dominant logic

The term and concept of CDL originated from the fields of relationship marketing and service research (Heinonen et al., 2010). Compared to other approaches, such as the service-dominant logic (SDL), CDL is a perspective on business from a customer’s viewpoint and therefore emphasizes how customers embed services (or products) in their lives rather than how businesses can provide services to customers (Heinonen & Strandvik, 2015). CDL therefore answers the question “What can we offer to customers that they are willing to purchase and pay for?” instead of asking “How can we sell more of our existing offerings?” (Strandvik, Holmlund, & Edvardsson, 2012). In order to answer this question, businesses need to apply adequate methods to understand customers and their logic.

The concept of CRM, which is a combination of customer-oriented strategies and technologies, aims at long-term profitable relationships (Greenberg, 2010) and offers means (e.g. customer segmentation and analytics, campaign management) to better understand customers. However, CRM systems offer an inside-out view on a customer, i.e. they create customer profiles (cf. Neckel & Knobloch 2015) that hold information (i.e. action data, reaction data, personal data, and potential data) about customers (cf. Neckel & Knobloch 2015; Reimer & Becker 2015) that are known to a company from past interactions. A complementing approach is the outside-in view as mentioned before which contributes information from the customers themselves and therefore complements classical customer profiles. This view might also contribute to a firm’s competitive advantage as market requirements can be anticipated ahead of competitors (Day, 1994). Hence, traditionally stored customer information (inside-out view) is rather static and needs to be complemented by rather dynamic information (outside-in view). These initial considerations drive the need to enhance the concept of a CDL by proposing the application of a deeper understanding of the customer.
2.2 Social Media and Social CRM

Social Media can be defined as web-based internet applications that allow the creation, access, and exchange of user-generated content (Greenberg, 2010). Kaplan and Haenlein (2010) propose a classification for Social Media which encompasses among others social networking sites (e.g. Facebook) and micro blogs (e.g. Twitter). Facebook and Twitter are amongst the largest Social Media and contain millions of public postings each day. These channels represent platforms for the information exchange between customers and are therefore a valuable source of customer and context information. For example, a single tweet delivers up to 60 different attributes that help in further enriching CRM data with information provided by customers themselves (e.g. their current situation, needs or problems).

The term Social CRM denotes a customer-oriented concept that integrates Social Media with CRM applications and thereby opens a broad spectrum of potential use cases in the area of marketing, sales and service (Greenberg, 2009; Alt & Reinhold, 2012). Among the examples are to derive knowledge on target customers and influencers or on product improvements as well as online customer interaction. It therefore widens the understanding of classical CRM applications as it includes the outside-in perspective on a customer. An important element of Social CRM is the integration of unstructured data from the social web, such as product- or brand-based data and further context elements. This requires techniques for monitoring and analyzing social content and integrating results into CRM processes. In this context, Reinhold and Alt (2012) proposed five task areas as elements of an integrated Social CRM. Here, Social Media Monitoring forms one of the components and aims at automatically identifying business-relevant information. The related monitoring steps (cf. Bengston et al. 2009; Bruns & Liang 2012; Stavrakantonakis et al. 2012) and their respective outcomes (cf. Stieglitz et al. 2014; Zhang & Vos 2014) are described and further consolidated in literature (Wittwer, Reinhold, & Alt, 2016).

3 Elements of a customer context model for Social CRM

3.1 Defining customer context

The literature review followed the methodology suggested by vom Brocke et al. (2009), which comprises the steps (1) defining the review scope, (2) conceptualizing the topic and (3) the literature search itself. Starting with the first step, the scope of the literature review followed Cooper (1988, cf. Table 1) and focused on research outcomes and theories (i.e. definitions and elements). It aimed at the integration of existing knowledge and was conceptually organized to cluster similar works. The perspective may be characterized as a neutral representation for both specialized scholars as well as practitioners as the target audience. The results are finally representative for the IS community as respective data sources were queried.
Table 1: Characteristics of the literature review

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Categories</th>
</tr>
</thead>
<tbody>
<tr>
<td>Focus</td>
<td>research outcomes</td>
</tr>
<tr>
<td>Goal</td>
<td>integration</td>
</tr>
<tr>
<td>Organization</td>
<td>historical</td>
</tr>
<tr>
<td>Perspective</td>
<td>neutral representation</td>
</tr>
<tr>
<td>Audience</td>
<td>specialized scholars</td>
</tr>
<tr>
<td>Coverage</td>
<td>exhaustive</td>
</tr>
</tbody>
</table>

The keyword search (cf. Table 2) was performed on the databases of EBSCO, IEEE, and ScienceDirect in title (TI), publication title (PT), abstract (AB), and keywords (KW). The first search string (steps 2 and 3) (“customer context”) was supplemented with the terms “consumer context” and “patient context” as the initial number of search results was low (22). Only reviewed contributions published since the year 2000 and such that are written in English language were considered in order to ensure transparency of results on the one hand and currentness on the other hand. The number of search results for all three keywords and the named restrictions was 146 and formed the basis for a deeper analysis. Each publication was screened in the named fields and, if marked as relevant to the concept of customer (or consumer or patient) context, the full-text was read to extract relevant items. Since it was found that context may either be related with application systems or their respective users (customers), a further restriction was made towards the user perspective. This view aligns with the CDL perspective as it helps businesses to understand customers and their individual, situation-based needs.

Table 2: Results of the literature search

<table>
<thead>
<tr>
<th>Databases</th>
<th>Search fields</th>
<th>Keywords</th>
<th>Number of results</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>A</td>
<td>B</td>
</tr>
<tr>
<td>EBSCO</td>
<td>TI, AB, KW</td>
<td>14</td>
<td>54</td>
</tr>
<tr>
<td>IEEE</td>
<td>TI, PT, AB, KW</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>ScienceDirect</td>
<td>TI, AB, KW</td>
<td>6</td>
<td>29</td>
</tr>
<tr>
<td>Total</td>
<td>-</td>
<td>22</td>
<td>90</td>
</tr>
</tbody>
</table>
After screening all publications, the relevant contributions to the understanding of customer context were selected (14). While analyzing the papers in detail it was found that they contribute to either a definition, the understanding of elements or a classification of the latter. The following table presents the resulting papers and indicates their main contribution.

<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Context definition</th>
<th>Context elements</th>
<th>Context dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Helgason &amp; Jobe, 2006)</td>
<td>“(...) objects of interest or quantities which potentially can take on different numerical or other values.”</td>
<td>-</td>
<td>Biologic make up, history, environment</td>
</tr>
<tr>
<td>(Bose &amp; Chen, 2009)</td>
<td>&quot;(...) services, which take into consideration the context data of consumers such as time, location etc.&quot;</td>
<td>Location/position, time, mobile technology</td>
<td>-</td>
</tr>
<tr>
<td>(Gard &amp; Kring, 2009)</td>
<td>“(...) where participants were; who participants were with; what participants were doing (...)”</td>
<td>-</td>
<td>Describe environmental contexts of schizophrenia patients as where participants were, who participants were with, and what participants were doing</td>
</tr>
<tr>
<td>(Griffin &amp; De Leastar, 2009)</td>
<td>“An adaptation of the presence mechanism to convey patient context derived from smart devices.”</td>
<td>Blood sugar level</td>
<td>-</td>
</tr>
<tr>
<td>Author(s)</td>
<td>Context definition</td>
<td>Context elements</td>
<td>Context dimensions</td>
</tr>
<tr>
<td>-----------------------------------------------</td>
<td>------------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------</td>
<td>--------------------</td>
</tr>
<tr>
<td>(Sannino &amp; De Pietro, 2011)</td>
<td>“(...) patient context means patient posture, movement, breath, temperature etc.”</td>
<td>Patient posture (lying, standing), movement (walking, running), breath, temperature, heart rate (min, max, threshold), time/interval</td>
<td>-</td>
</tr>
<tr>
<td>(Haas-Kotzegger &amp; Schlegelmilch, 2013)</td>
<td>-</td>
<td>Product knowledge, prior experience, perceived geographical distance</td>
<td>-</td>
</tr>
<tr>
<td>(Steel, Dubelaar, &amp; Ewing, 2013)</td>
<td>“(...) stimuli and phenomena that exist in the environment surrounding an individual or operational unit that has an impact on the individual or unit and can limit or provide opportunities for behaviour and attitudes in an organisational setting.”</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>(Kristina Heinonen, 2014)</td>
<td>“What are customers doing?”, “(...) what customers do and experience in their own lives and businesses beyond service offerings (...)”</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Author(s)</td>
<td>Context definition</td>
<td>Context elements</td>
<td>Context dimensions</td>
</tr>
<tr>
<td>-----------</td>
<td>--------------------</td>
<td>------------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>(Pappachan, Yus, Joshi, &amp; Finin, 2014)</td>
<td>-</td>
<td>Age/age group, gender, location (city, state, location), profession, diseases in the area, symptoms, activity</td>
<td>-</td>
</tr>
<tr>
<td>(Chou, Chen, &amp; Conley, 2015)</td>
<td>“(...) specific customer needs and values (...)”</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>(Nemoto, Uei, Sato, &amp; Shimomura, 2015)</td>
<td>“(...) a set of spatial-temporal elements related to the person or product. In addition, these spatial and/or temporal elements are called contextual elements (...)”</td>
<td>Personalities, knowledge, skills, relationship with others, social trends, economic circumstances, technology direction, public consciousness, health conditions, humors, emotions, behaviors, season, location, weather, temperature</td>
<td>Environment attributes, customer attributes, environment states, customer states</td>
</tr>
<tr>
<td>(Boulemtafes, Rachedi, &amp; Badache, 2016)</td>
<td>-</td>
<td>Available (medical) resources (devices), location, constraints impacting a user's mobility, available communication networks, sensing infrastructures</td>
<td>-</td>
</tr>
<tr>
<td>(Kahveci, Yuksel, &amp; Laleci Erturkmen, 2016)</td>
<td>-</td>
<td>Current medication, medical history, tests, allergies, reactions, drug therapies</td>
<td>-</td>
</tr>
</tbody>
</table>
Author(s) | Context definition | Context elements | Context dimensions
--- | --- | --- | ---
(McHeick, Nasser, Dbouk, & Nasser, 2016) | - | Blood pressure, carotid stenosis, symptoms, age, speech impairment, unilateral weakness | -

The results in the table show that solely one research paper provides besides a definition of context also dimensions and associated elements (cf. Nemoto et al., 2015) whereas most papers (8) provide information on solely one of these aspects. Both context dimensions as well as models are sparsely described in current research as indicated above. Definitions of context are applicable to different spheres of life and are either comparatively broad or enumerative and therefore do not foster a common understanding of the term. However, there are papers that consider the customer and his environment as relevant components of context (Gard & Kring, 2009; Nemoto et al., 2015; Steel et al., 2013) which aligns with the customer-centered view of context within this paper. In addition and from a Social CRM perspective, context is conceived as additional information originating from the customer (e.g. through analyzing Social Media), which is called outside-in perspective in the following. It furthermore intends to supplement the existing inside-out view on a customer (e.g. customer profiles within CRM applications). Therefore, this research defines customer context as customer-centered, dynamic and domain-independent information that might be used in different spheres of life (e.g. mobility, health) and provide additional information about the customer and his environment. Given this definition, a further specification of context by defining its constituents is necessary and described in the following.

### 3.2 Structuring customer context

In addition to the above-mentioned definitions of context, literature also provides a framework for structuring customer context respectively describes specific context elements. For this research, the schema of Nemoto et al. (2015) fits best as it is the only framework that suggests context dimensions, clusters context elements within these dimensions and aligns with the view on the customer and his environment. The other papers found mainly discuss definitions and elements and only a few (three, cf. Table 3) mention related context dimensions. The resulting model (Figure 1) summarizes context elements provided in the reviewed literature and is extended by examples for each element. It has to be considered that the given list of context elements is not exhaustive. However, the model differs the two before mentioned perspectives on context information, i.e. the customer and his environment. The characteristics of these information are furthermore distinguished into individual or global on the one and long-term or short-term validity on the other hand (Nemoto et al., 2015). With regard to a Social CRM system, individual context information belong to a specific customer whereas global information form the basis for describing customer segments. Gathered
context are grouped into rather short-term or long-term valid information and therefore signals either a temporary interaction opportunity (e.g. based on the location and preferences of a customer) or a general market demand (e.g. based on a community’s demand).

![Customer context model for Social CRM (based on Nemoto et al., 2015)](image)

Figure 1: Customer context model for Social CRM (based on Nemoto et al., 2015)

With regard to customer profiles, the attributes in the model describe the before mentioned action, reaction, personal and potential data and enable businesses to complement or enrich their customer profiles. This serves as a basis for Social CRM processes such as for example customer segmentation and campaign management. Within a Social CRM the most relevant source of data are Social Media as they enable businesses to get closer to the customer than ever before (Alt, 2016) and provide a rich set of data about customers and customer segments. Wearables, such as smart watches, are a second source of information. They deliver relevant user-centered information such as pulse rate, activity level, pedometer, altimeter, location, time, distance, or temperature. Especially health-related information from those devices are regarded as an addition to specific medical devices, such as heart rate monitors, which are a further source of information and may possess a higher accuracy of data capturing as they are calibrated and approved.

### 3.3 Context elements from Social Media

With regard to a Social CRM application, two principle methods of context information acquisition may be distinguished (Reinhold et al., 2017). The first method is a direct user input as a response to an input prompt. This may be the case when a customer inputs information himself, for example in order to search or configure a service offering (e.g. mobility services such as Quixxit, Outfittery). The second method is an indirect user
input, which gathers data with or without a customer’s knowledge. This may be the case when mobile applications automatically collect e.g. location data in order to offer relevant mobility services. This research focuses on the latter and assumes a conscious transfer of context information from a customer towards a company. In this setting, a customer is aware that certain data may be transferred.

Capturing context from Social Media refers to the second method and may either be performed by using a social network’s application programming interface (API; “mined context”) or by using specific Social CRM applications (such as Social Media Analytics, Monitoring or Text Mining applications) or external service providers such as Google Fit (“derived context”; Henricksen et al., 2005). For example, using the Twitter API delivers the name of a user and the raw text of a tweet. Applications of Social Media Monitoring and Analytics on the other hand aggregate and interpret available context information and are able to create further information that were not available from the API. For example, based on a user’s tweets SMA applications provide an overview about different topics a user is interested in and his attitude or sentiment towards these topics. Figure 2 summarizes both methods to capture context information from Social Media.

Figure 2: Methods for capturing context from Social Media

The following table presents the results of a mapping between context elements from the model (see Figure 1) and available context information from the Twitter API. The matching refers to the indirect and mined method of capturing context information (see the highlighted path in Figure 2) and was conducted by reviewing all available attributes from the Twitter API and assigning them to a suitable context element in the model based on the attribute’s description in the API. The table presents directly available data elements, which are mainly related to the context dimensions 2–4 (first column). The contained information might be enriched by applying e.g. SMA or Business Intelligence applications (cf. Wittwer, Reinhold, Alt, Jessen, & Stüber, 2017). However, especially for the first context dimension (environment attributes) the derivation of information is necessary in order to obtain further insights.
Table 4: Directly available context information from Twitter

<table>
<thead>
<tr>
<th>Context dimensions</th>
<th>Context elements</th>
<th>Available attributes from Twitter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environment Attributes</td>
<td>Social trends</td>
<td>(requires deriving further context information using Social CRM applications)</td>
</tr>
<tr>
<td></td>
<td>Economic circumstances</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Available technology</td>
<td></td>
</tr>
<tr>
<td>Customer Attributes</td>
<td>Personality</td>
<td>User name, preferences, language, timestamp, user description, verification status</td>
</tr>
<tr>
<td></td>
<td>Knowledge</td>
<td>Listed count</td>
</tr>
<tr>
<td></td>
<td>Skills</td>
<td>User description</td>
</tr>
<tr>
<td></td>
<td>Relationship with others</td>
<td>Contributors, favorite count, favourites count, followers, friends count</td>
</tr>
<tr>
<td>Customer States</td>
<td>Health</td>
<td>Text, user description, hashtags</td>
</tr>
<tr>
<td></td>
<td>Emotions</td>
<td>Text, user description, hashtags</td>
</tr>
<tr>
<td></td>
<td>Activity</td>
<td>Text, coordinates, place, description, statuses count, hashtags</td>
</tr>
<tr>
<td></td>
<td>Behavior</td>
<td>Text, statuses count</td>
</tr>
<tr>
<td></td>
<td>Preferences</td>
<td>Text, profile background color, description, hashtags, media</td>
</tr>
<tr>
<td>Environment States</td>
<td>Devices</td>
<td>Text, named entities, hashtags</td>
</tr>
<tr>
<td></td>
<td>Time</td>
<td>Coordinates, time zone</td>
</tr>
<tr>
<td></td>
<td>Location</td>
<td>Coordinates, place, named entities, hashtags</td>
</tr>
<tr>
<td></td>
<td>Weather</td>
<td>Coordinates, place, hashtags</td>
</tr>
</tbody>
</table>

Based on the model and using the Twitter API, a software implementation could extract the given information and build a specific context model. By extracting further tweets from an individual, the model gradually completes. For example, the tweet text might reveal information on an individual’s emotions, preferences as well as interests and thereby frame his “customer states”. In addition, information such as coordinates and
time zone indicate the residence or whereabouts and frame the “environment states”. Finally, the user name, language and user description frame “customer attributes”.

4 Discussion

Following Heinonen and Strandvik (2015), the essential features of CDL are the business perspective, customer logic, offerings, value formation, and customer eco-systems. The results of this research contribute especially to the understanding of the customer logic and therefore improve the relevance of product or service offerings.

Current research falls short in providing a common understanding of customer context with a structured collection of related context information and the instantiation with Social Media data. Therefore, this paper complements existing research by addressing these aspects. As a first result and with respect to RQ1 this research presents a definition of customer context in Social CRM settings and provides a conceptual model to structure the concept and its constituents. As a second result and referring to RQ2, the model is adapted with a non-exhaustive list of context elements found during a literature review. It builds on the results from multiple research disciplines (information systems, marketing and management, and healthcare) and therefore aims to be applicable to multiple spheres of life, e.g. mobility, communication, and health. The paper then discusses several data sources of context information (RQ2), focusing especially on Social Media as a rich data source. The provided mapping shows that relevant context information are available within Social Media and relates them to the model.

These results are discussed together with a CDL perspective on customer relationships. In CDL as a marketing perspective, customer logic is a concept describing a customer’s activities, experiences, and goals (Heinonen et al., 2010). Each customer’s logic is individual, can change and may be influenced (e.g. by others or external effects) or may change over time. Within a Social CRM, customer context is a specific and structured enabler that helps businesses to understand this customer logic as it captures individual information, especially from Social Media, either by sensing or deriving context information. Customer context extends the often stressed 360° view on a customer (Chen & Popovich, 2003; Sussin, Friedman, & O’Kane, 2015; van Looy, 2016) by incorporating outside-in data with existing inside-out data and thereby puts the customer at the center of business activities. As a result, it is the basis to enable a cross-provider understanding of customers. This research provides the starting point for individualized, customer-centered Social CRM processes based on the captured data from Social Media. The described context information might be used in Social CRM processes, such as the definition of personas, which represent specific needs, characteristics, or preferences of a target or target group or within a so-called “social customer value dashboard”, which contains weighted context elements that calculate to a sum and provide information about the relevance of an offering for a target or target group. This briefly illustrates practical and exemplary application perspectives of the concept within a CDL strategy.
Ultimately, these results form the basis for businesses to answer the initially raised question “What can we offer to customers that they are willing to purchase and pay for?”.

5 Conclusions and outlook

This research presents an analysis of current literature on customer context. It derives a definition of context, a model, context dimensions as well as specific context elements from literature in order to substantiate a common understanding of the concept for Social CRM. Thereafter, the paper describes a mapping of context elements with Social Media data using Twitter as an example. As business environments are increasingly competitive, the need to understand customers and their individual logic is an inevitable success factor for them. Methods and sources for the collection of context information are discussed and it is postulated that especially Social Media deliver a large amount of data (besides e.g. wearables and medical devices) that may help to transform a company’s inside-out perspective towards an outside-in perspective.

However, the following considerations reflect on the limitations of this research and thereby formulate a short exemplary research agenda, which shall be addressed by future research. The aspects reflect on the application of the concept, the investigation of benefits for both customers and businesses and the necessity to control the access to context information:

- First, it is necessary to further research on the proposed model’s applicability to service (or product) providers and extend the given list of context information. Furthermore, an application of the model to other application fields, such as medicine, shall be addressed and could be beneficial. With respect to the openEHR standard (openEHR Foundation, 2017) for Electronic Health Records (EHR) possibly valuable (patient) context information could supplement clinical information such as basic information, medications list, therapeutic precautions and the social situation. For example, using a case study approach could identify further context elements and application fields of relevance.

- Second, further research also needs to answer the questions of how to model and digitally represent context information. For example, XML notations and annotation models (e.g. W3C Web Annotation Data Model) may be a suitable digital representation of context information to be exchanged between application systems, such as Social CRM and recommender systems.

- Third, research needs to address the resulting benefits that may arise from the incorporation of customer context into product or service offerings (or medical treatments) from both a company’s and particularly from a customer’s perspective. For example, a presumable selling potential could be based on a specific demand.

- Finally and within such a customer-centered and data-based business strategy, privacy aspects are highly relevant and need to be considered by further research. The argumentation of this research is based on the assumption that
publicly available data can be used within a business context but rising questions on privacy, data sovereignty, data usage, and data control still have to be answered to prevent a misuse of social data which entails latent risks e.g. for personal rights (Alt & Reinhold, 2016). With regard to the data control aspect, a proposed solution is a customer-owned “context app” which provides a central control mechanism to the user. For example, a customer could decide selectively, e.g. during a service configuration process, which additional context information he will provide in order to configure a service congenial to his need.

With the rising use of Social Media on the one and the also rising demand of collaborative and personalized interactions with companies on the other hand, the latter need to apply methods to better understand their customers. Customer context (from Social Media) is a promising means to achieve this aim as it helps to understand customers and their respective needs. It therefore helps to bring customers and companies closer together.

References


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