

Association for Information Systems AIS Electronic Library (AISeL)

BLED 2015 Proceedings

BLED Proceedings

2015

Social CRM Performance Model: An Empirical Evaluation

Torben Küpper

University of St. Gallen, Switzerland, torben.kuepper@unisg.ch

Tobias Lehmkuhl

University of St. Gallen, Switzerland, tobias.lehmkuhl@unisg.ch

Nicolas Wittkuhn

University of St. Gallen, Switzerland, nicolas.wittkuhn@student.unisg.ch

Alexander Wieneke

University of St. Gallen, Switzerland, alexander.wieneke@unisg.ch

Reinhard Jung

University of St. Gallen, Switzerland, reinhard.jung@unisg.ch

Follow this and additional works at: <http://aisel.aisnet.org/bled2015>

Recommended Citation

Küpper, Torben; Lehmkuhl, Tobias; Wittkuhn, Nicolas; Wieneke, Alexander; and Jung, Reinhard, "Social CRM Performance Model: An Empirical Evaluation" (2015). *BLED 2015 Proceedings*. 18.

<http://aisel.aisnet.org/bled2015/18>

This material is brought to you by the BLED Proceedings at AIS Electronic Library (AISeL). It has been accepted for inclusion in BLED 2015 Proceedings by an authorized administrator of AIS Electronic Library (AISeL). For more information, please contact elibrary@aisnet.org.

28th Bled eConference

#eWellBeing

June 7 - 10, 2015; Bled, Slovenia

Social CRM Performance Model: *An Empirical Evaluation*

Torben Küpper

University of St.Gallen, Switzerland

torben.kuepper@unisg.ch

Tobias Lehmkuhl

University of St.Gallen, Switzerland

tobias.lehmkuhl@unisg.ch

Nicolas Wittkuhn

University of St.Gallen, Switzerland

nicolas.wittkuhn@student.unisg.ch

Alexander Wieneke

University of St.Gallen, Switzerland

alexander.wieneke@unisg.ch

Reinhard Jung

University of St.Gallen, Switzerland

reinhard.jung@unisg.ch

Abstract

This paper presents an empirical investigation of a Social CRM performance model within an organizational perspective. A constraining factor regarding the implementation of Social CRM and the achievement of its objectives is the lack of an appropriate performance model. Little research has been conducted on a corresponding holistic approach and on the development of formative performance constructs. To address this gap, the article develops and empirically evaluates a Social CRM performance model, including an infrastructure-, process-, customer- and organizational performance construct. The data is analyzed using a structural equation model with a surveying sample of 126 marketing, communication and IT decision makers. The results show that infrastructure performance has an indirect, process performance a direct and customer performance no association with organizational performance. The Social CRM performance model generates deeper insights into a company's performance interrelationship and provides a control system, in order to assess Social CRM activities and enhance organizational performance.

Keywords: Social CRM, Social CRM Performance, Social CRM Performance Model, Empirical Performance Model

1 Introduction

Social Customer Relationship Management (Social CRM) deals with the integration of Web 2.0 and Social Media into CRM (Lehmkuhl and Jung 2013). Social CRM is a rising phenomenon, leading to a new scientific paradigm (Askool and Nakata 2011). It is defined as “[...] 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 and transparent business environment” (Greenberg 2010). Gartner has identified Social CRM as one of the top innovation-triggered themes in the next five to seven years (Alvarez 2013).

Given that Social CRM is defined as a business strategy, its implementation requires holistic “transformational efforts among all organizational parts” (Lehmkuhl and Jung 2013). Particularly the implementation of Social CRM has the potential to provide mutually beneficial value for a company and its customers. Today, companies transform their business by applying new strategies, conducting organizational change, and purchasing new Social CRM technologies to achieve competitive business benefits (Trainor et al. 2014). Yet, companies implement Social CRM rather warily due to the lack of a holistic performance model, which allows companies to assess Social CRM activities and enhance organizational performance (e.g., increase brand awareness +10%).

A literature review by Küpper et al. (2014) focuses on the current state of knowledge for Social CRM performance measures and reveals the lack of clearly defined and robust constructs and corresponding formative indicators. Previous work covers CRM performance measurement models, aiming at developing a balanced score card (Grabner-Kraeuter et al. 2007; Jain, Jain, and Dhar 2003; Kim and Kim 2009; Kim, Suh, and Hwang 2003; Llamas-Alonso et al. 2009; Sedera and Wang 2009; Wang, Sedera, and Tan 2009). Other research approaches test the interrelated association of different performance constructs empirically within the context of CRM (e.g., Jayachandran et al. 2013; Coltman et al. 2011; Reinartz et al. 2004; Roh et al. 2005; Keramati et al. 2010). The current articles to Social CRM focus on the conceptualization of Social CRM performance measures (Küpper et al. 2015; Trainor 2012) or evaluate individual Social CRM performance constructs (e.g., Trainor et al. 2014). Given the novelty of the topic and lack of research, no article investigates a holistic Social CRM performance model, i.e., including different dimensions (e.g., infrastructure, processes). Therefore, the objective of the article is to develop and evaluate a Social CRM performance model within an organizational perspective. The corresponding research question (RQ) is as follows:

RQ: Which performance constructs for Social CRM have a significant influence on organizational performance?

To achieve the stated objective, the article develops and evaluates a structural model, deriving five hypotheses from current literature. Accordingly, data from a survey sample of 126 marketing, communication and IT decision makers are analyzed through

a structural equation model, as proposed by Hair et al. (2013), so as to answer the RQ. The result shows that two of three constructs influence organizational performance. The Social CRM performance model constitutes a scientific contribution as well as practical implication. The practical implication is given by providing a control system, in order to assess Social CRM activities and enhance organizational performance. The rigorous methodology enables researchers to adopt and apply the model as well as the new constructs and indicators for their research.

The remainder of the paper is structured as follows. Section 2 presents the theoretical framing, including the conceptual background and the derived hypotheses of the article. Next, a methodology is given. Section 4 highlights the results of the Social CRM performance model, regarding the support as well as not support hypotheses. Section 5, presents the discussion and highlights scientific contributions and practical implications. The final section presents the limitations and outlines further research approaches.

2 Theoretical Framing

2.1 Conceptual Background

To the best of our knowledge, this article contributes the first holistic empirically evaluated performance model for Social CRM. Due to the definition of Social CRM, the obvious related context is on CRM. Related performance measurement models shall be adopted to develop a conceptual Social CRM performance model. An overview of performance measurement models in CRM literature is presented in Table 1.

| Authors | Level ^a | | Typ ^b | | Scope | | Relationship ^c | | Background | |
|--------------------------------|--------------------|------|------------------|------|-------|---------|---------------------------|------|------------|------|
| | Ind. | Org. | Con. | Emp. | Part. | Holist. | N.-cas. | Cas. | CRM | SCRM |
| Kim and Kim (2009) | | x | | x | | x | | x | x | |
| Kim et al. (2003) | x | | | x | x | | x | | x | |
| Öztayşi, Sezgin, et al. (2011) | | x | | x | x | | x | | x | |
| Öztayşi, Kaya, et al. (2011) | | x | | x | | x | x | | x | |
| Kimiloglu and Zarali (2009) | | x | x | | | x | x | | x | |
| Llamas-Alonso et al. (2009) | | x | x | | | x | x | | x | |
| Zinnbauer and Eberl (2005) | | x | x | | x | | x | | x | |
| Shafia et al. (2011) | | x | | x | | x | x | | x | |
| Lin et al. (2006) | | x | x | | | x | x | | x | |
| Grabner-Kraeuter et al. (2007) | | x | x | | | x | x | | x | |
| Jain et al. (2003) | | x | x | | x | | x | | x | |
| Wang et al. (2009) | | x | x | | | x | x | | x | |
| Sedera & Wang (2009) | | x | x | | | x | x | | x | |
| Sum | 1 | 12 | 8 | 5 | 4 | 9 | 12 | 1 | 13 | 0 |
| This article | | x | | x | | x | | x | | x |

Ind. = Individual Level; Org. = Organizational Level; Con. = Conceptual; Emp. = Empirical; Part. = Partial; Holist. = Holistic; N.-cas. Rel. = Non-causal Relationships; Cas. Rel. = Causal Relationship; ^a Level of Analysis; ^b Type of validated model; ^c Development of relationships between the mentioned dimensions

Table 1: Overview of performance measurement models in literature

Kim and Kim's (2009) performance measurement model is adopted for the current research based on three reasons, covering scientific and practical aspects. First, after having conducted a rigorous and in-depth literature review on different performance models and performance measures for Social CRM, the model by Kim and Kim appears most holistic and well balanced. This impression is further support by the fact that it is published within a high-ranked journal and widely used, providing a high degree of

external validity¹. Second, the authors derived conceptually causal interrelationships between its dimensions (cf. Table 1), which are a valuable approach to develop a performance model (e.g., focusing on a quantitative evaluation with a structural equation model). Lastly, the model has been well received by practitioners: within two focus groups, representatives from companies have classified Social CRM-specific objectives into the different constructs of the performance measurement model, showing its high feasibility and comprehensiveness as a management tool. In a final step, these practitioners also have created exemplified metrics for each performance measure, using these metrics for application in the corresponding departments of their companies, again stressing the usefulness of the model for application in real-life.

The corresponding performance measurement model adopts a company perspective and includes four dimensions (i.e., constructs), namely (1) infrastructure performance, (2) process performance, (3) customer performance, and (4) organizational performance.

The previous literature review (Küpper et al. 2014), based on a systematic research process (vom Brocke et al. 2009), was conducted to derive performance measures and to classify them within the constructs of the performance measurement model, as recommended by Kim and Kim (2009). Additionally, 15 semi-structured interviews identifies 25 Social CRM performance measures (Küpper et al. 2015). After another evaluation (e.g., discussing the results), two measures are removed and eight sub-dimensions are built to separate the performance measures in detail (i.e., each of the four constructs captures two sub-dimensions). To sum up, Table 2 presents the four adopted constructs, the eight derived sub-dimensions and the 23 performance measures in the context of Social CRM.

| Constructs (dimensions) | Sub-dimensions | Performance Measures | ID |
|----------------------------|---------------------------------|------------------------------------------|-----|
| Infrastructure Performance | Cultural Performance | Employee Commitment | IN1 |
| | | Cultural Readiness | IN2 |
| | IT Performance | Online Brand Communities | IN3 |
| | | IT-Readiness | IN4 |
| Process Performance | Company-wide Performance | Customer Orientation | PR1 |
| | | Social Selling | PR2 |
| | | Multi-Channel and Ubiquitous Interaction | PR3 |
| | Department-specific Performance | Customer Insights | PR4 |
| | | Market and Customer Segmentation | PR5 |
| | | Customer Co-Creation | PR6 |
| | | Customer Interaction | PR7 |
| | | Target-Oriented Customer Events | PR8 |
| Customer Performance | Indirect Customer Performance | Peer-to-Peer-Communication | CU1 |
| | | Customer-Based Relationship Performance | CU2 |
| | | Customer Loyalty | CU3 |
| | Direct Customer Performance | Personalized Product and Services | CU4 |
| | | Customer Convenience | CU5 |
| Organizational Performance | Monetization Performance | New Product Performance | OR1 |
| | | Customer Lifetime Value | OR2 |
| | | Financial Benefits | OR3 |
| | Intangible Performance | Business Optimization | OR4 |
| | | Brand Awareness | OR5 |
| | | Competitive Advantage | OR6 |

Table 2: Dimensions of Social CRM performance

¹ It is the most cited article for the abovementioned CRM performance measurement models, based on Google Scholar in October 2014.

2.2 Hypotheses Development and Conceptual Model

A current analysis of the academic literature yields a total of 101 articles. The focus of the analysis is on performance models (CRM background) with an empirical investigation, identifying significant effects. After analyzing (reading) title, abstract and introduction and eliminating duplets, 29 relevant articles are identified. The analysis of the relevant articles, containing the four constructs (including the 23 measures), reveals five hypotheses, which yield a conceptual Social CRM performance model. Figure 1 presents an overview of all investigated direct, significant interrelationships of the conceptual Social CRM performance model.

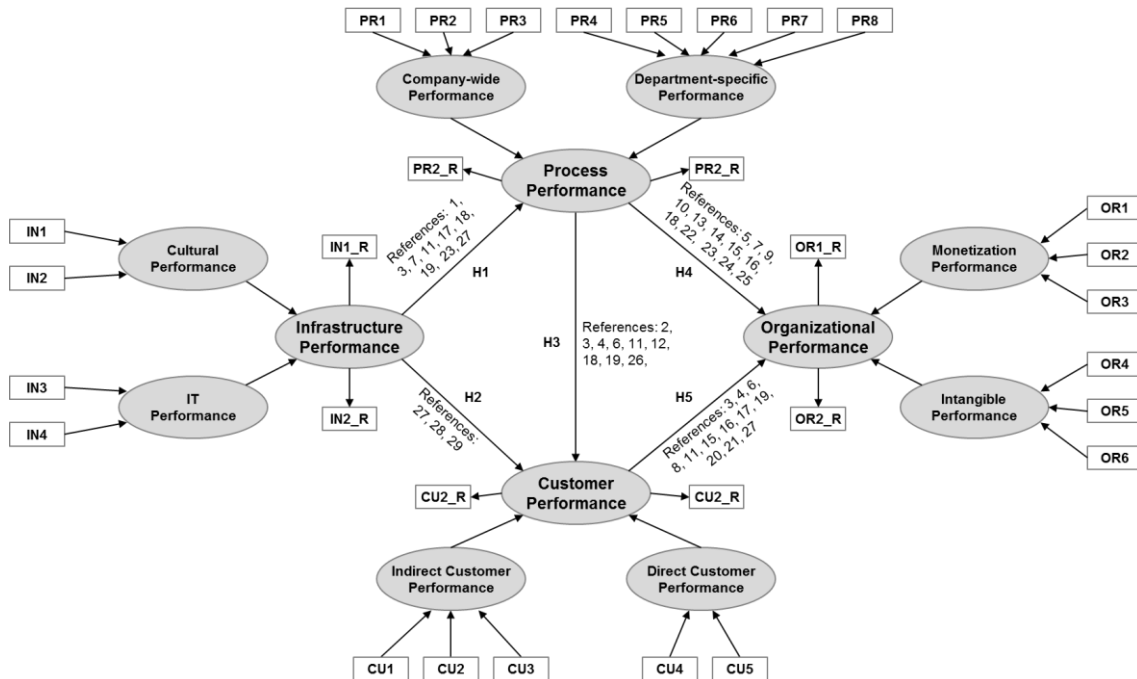


Figure 1: Conceptual Social CRM performance model (references are listed in the appendix)

2.2.1 Infrastructure Performance

The infrastructure performance construct describes activities and/or results of infrastructural aspects (Neely, Gregory, and Platts 1995), which includes an IT dimension (e.g., IT-Readiness) and a cultural dimension (e.g., employee commitment). Due to cultural integration and the implementation of, e.g., an IT-infrastructure, employees are able to communicate in a more customer-oriented way and the company is able to monitor their customers, in order to generate new customer insights. The reviewed literature especially reveals that infrastructure performance has an association with process performance. This conclusion is supported by Peltier et al. (2013), Kim (2008), and Keramati et al. (2010), which found positive significant relationships between a cultural dimension and process performance within the context of CRM. Positive and significant relationship for the IT perspective to process performance within CRM, is supported by the contributions of Chuang and Lin (2013), Ernst et al. (2011), Lee et al. (2010), Wang and Feng (2012). Thus, the first hypothesis is as follows:

H1: Infrastructure performance has a positive association with process performance within the context of Social CRM.

Additionally, the literature also supports an association of infrastructure performance with customer performance. Especially, IT enables organizations to interact more effectively and efficiently with customers (Trainor et al. 2014). The results of Ahearne et al. (2007), Jayachandran et al. (2005), and Ahearne et al. (2005) support a positive and significant relationship with customer performance within the context of CRM. Thus, the second hypothesis is stated as:

H2: Infrastructure performance has a positive association with customer performance within the context of Social CRM.

2.2.2 Process Performance

The construct describes aspects that relate to company-wide as well as department-specific processes and activities of Social CRM (i.e., activities using resources that are executed to achieve a business goal to create value). Within CRM literature the construct is also named CRM process capabilities, covering the abovementioned aspects in the corresponding topic. Due to target-oriented customer events, new customer insights, better customer interactions with the company and across customers etc., process performance provides a more efficient customer performance as well as enhances the organizational performance. Particularly, the literature supports a positive and significant association of process performance with customer performance within the CRM context (Chen et al. 2009; Liu, Zhou, and Chen 2006; Padmavathy, Balaji, and Sivakumar 2012; Roh, Ahn, and Han 2005). Thus, the third hypothesis is stated as:

H3: Process performance has a positive association with customer performance within the context of Social CRM

Concerning the association with organizational performance, the literature also reveals positive and significant relationships. Especially, the results within a CRM context from Chen et al. (2004), Dutu and Hălmăjan (2011), Ernst et al. (2011), Harrigan et al. (2010), and Reinartz et al. (2004), provide strong support for the next hypothesis:

H4: Process performance has a positive association with organizational performance within the context of Social CRM.

2.2.3 Customer Performance

The construct describes the effects of Social CRM on the customers (customer perception) and the aspects of Social CRM, which are perceived by customers. Additionally, the construct includes direct aspects (i.e., the company has to operate actively) as well as indirect aspects (i.e., management activities of a company, e.g., the peer-to-peer communication), in order to achieve the desired organizational performance. Especially, the results from Chen et al. (2009), Harrigan et al. (2010), Liu et al. (2006), Thongpapanl and Ashraf (2011), Zablah et al. (2012) supports the last hypothesis:

H5: Customer performance has a positive association with organizational performance within the context of Social CRM.

2.2.4 Organizational Performance

The construct describes the dimension of the company's success and business results. Particularly, the constructs includes monetization aspects (e.g., financial benefits, customer lifetime value etc.) as well as intangible aspects (e.g., brand awareness,

competitive advantage etc.), capturing a holistic approach (Kaplan and Haenlein 2010), in order to establish a long-term and profitable customer relationship.

3 Methodology

3.1 Instrument Development

The process of developing instruments (i.e., indicators) is depicted in Figure 2 (cf. Walther et al., 2013). It is conducted in a three stage approach (I. item creation, II. scale development and III. indicator testing), including six sub-stages in total, as proposed by Moore and Benbasat (1991). The first sub-stage “Conceptualization Content Specification” focuses on a literature review, in order to identify context-specific constructs (dimensions), corresponding sub-dimensions and indicators (i.e., performance measures, see Table 2). Second (“Item Generation”), based on the results, indicators are deduced to operationalize the previous constructs. Third, a Q-sorting procedure assesses the “Access Content Validity” with the calculation of an inter-rater reliability index (or related indexes, e.g., Cronbach’s Alpha). Within the next two sub-stages (“Pretest and Refinement” and “Field Test”), the questionnaire is tested, in order to obtain some initial feedback, for instance on problematic areas (definitions, wording, length of the questionnaire etc.). Especially for the unique characteristics of formative indicators and the corresponding constructs, the last sub-stage “Evaluation of Formative Measurement Model and Re-Specification” is based on the process of formative measurements from Cenfetelli and Bassellier (2009). The applied confirmatory factor analysis is designed according to Diamantopoulos and Winklhofer (2001), and focuses on a statistical evaluation of formative indicators and corresponding constructs.

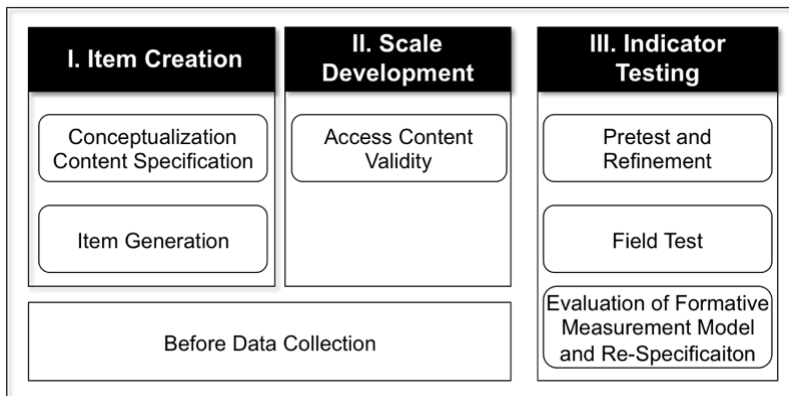


Figure 2: Process of developing instruments

3.2 Data Collection

A pre-test is distributed online to PhD students and four selected practitioners in the corresponding Social CRM context. To ensure a high degree of validity and increase the quality of the data two screen-out questions are implemented. Participants that answered any of these questions with “no” have been excluded from the online-survey. The final survey is distributed over several Social Media channels (e.g., Xing, LinkedIn, Twitter etc.), focusing on marketing, communication, and IT decision makers. The indicators are measured using a 7-point Likert scale from the agreement-level “strongly disagree” (1) to “strongly agree” (7). In total, a dataset of 126 answers was captured and serves as the basis for the analysis. Some statistics of the data are presented in Table 3.

| Industry | % | # of Employees | % | Position in Company | % |
|-----------------------------------|-----|----------------|-----|---------------------|-----|
| Manufacturing & Utility | 30% | < 10 | 15% | Executives | 30% |
| Others | 18% | 10 – 49 | 17% | Team Manager | 20% |
| Information & Communication | 16% | 50 – 499 | 28% | Specialized Manager | 18% |
| Finance & Insurance | 15% | 500 – 999 | 10% | Department Manager | 15% |
| Public Administration & Logistics | 11% | 1000 – 5000 | 17% | Division Manager | 14% |
| Health Industry | 10% | > 5000 | 13% | Others | 3% |

Table 3: Descriptive sample statistic

3.3 Data Analysis

The prerequisite step to analyze the structural model is the evaluation of the measurement model, which is calculated using the statistical software SmartPLS and SPSS (e.g., calculating the variance inflation factors). The five hypotheses are tested with SmartPLS. In particular, the coefficients of the corresponding associations are estimated by conducting a structural equation model with a partial least square method (Hair et al. 2013).

4 Results

The estimators from the partial least square method are reported, as recommended by Hair et al. (2013), in a two-step approach (Chin 2010). First, the measurement model is calculated. The reflective measurement model is reported as provided by Söllner et al. (2012) and investigate the higher order constructs. The development process of formatively measured indicators and corresponding constructs follows the first four steps recommended by Cenfetelli and Bassellier (2009), applying a confirmatory factor analysis (Diamantopoulos and Winklhofer 2001). Second, the coefficients of the structural model are calculated (Hair et al. 2013) and two quality criteria are presented (i.e., f^2 , GoF) (Gefen et al., 2011; Wetzels et al., 2009). Both estimations are calculated with a parameter setting using 120 cases and 5000 samples.

4.1 Measurement Model

| Reflective indicators | AVE | Com. R. | Load. | p-value |
|----------------------------------------------------------------------------------------------------------------|-------|---------|-------|---------|
| Infrastructure performance | 0.896 | 0.945 | | |
| IN1_R* In general, sufficient resources are available and cultural aspects within the company are established. | | | 0.944 | < 0.01 |
| IN2_R* All in all, resources are available and cultural aspects disseminated throughout the company. | | | 0.949 | < 0.01 |
| Process performance | 0.916 | 0.956 | | |
| PR1_R* In general, the processes and activities in the company are improved through Social CRM. | | | 0.957 | < 0.01 |
| PR2_R* All in all, the improvement of business processes and activities is substantial. | | | 0.957 | < 0.01 |
| Customer performance | 0.923 | 0.960 | | |
| CU1_R* Generally, Social CRM activities improve a positive customer perception. | | | 0.959 | < 0.01 |
| CU2_R* All in all, customer perceptions are enhanced substantially due to Social CRM activities. | | | 0.962 | < 0.01 |
| Organizational performance | 0.921 | 0.959 | | |
| OR1_R* Generally, Social CRM activities increase business results. | | | 0.957 | < 0.01 |
| OR2_R* All in all, the profitability of the Social CRM activities enhancing results is high. | | | 0.963 | < 0.01 |

Table 4: Test statistics for the reflective measurement model

The reflective measurement model is assessed by estimating (1) convergent validity (i.e., AVE and factor loadings), (2) internal consistency (i.e., composite reliability) and (3) discriminant validity (Hair et al. 2013). Table 4 provides an overview of the test statistics. The indicators show (1) a satisfactory convergent validity as all reflective loadings are clearly above the threshold of 0.5 and significant (Hulland 1999). Additionally, the average variance extracted (AVE) of all reflective constructs is clearly above 0.5 (Fornell and Larcker 1981). (2) Composite reliability also present adequate results of all constructs being above the threshold of 0.7 (Nunnally and Bernstein 1994). The (3) discriminant validity shows a robust result (Hair, Ringle, and Sarstedt 2011), due to the fact that all square roots of each AVE are higher than the corresponding latent variable correlation (Table 5). To conclude, the reflective measurement model is validated for the higher order constructs.

| | (I) | (II) | (III) | (IV) |
|----------------------------------------|--------------|--------------|--------------|--------------|
| Infrastructure Performance (I) | 0.946 | | | |
| Customer Performance (II) | 0.430 | 0.961 | | |
| Process Performance (III) | 0.535 | 0.758 | 0.977 | |
| Organizational Performance (IV) | 0.487 | 0.680 | 0.784 | 0.980 |

Table 5: Discriminant validity

After the fulfillment of the quality criteria for the reflective measurement model, the focus is on evaluating the formative measurement model, concerning the steps: 1. multicollinearity testing, 2. the effect of the number of indicators and non-significant weights, 3. co-occurrence of negative and positive indicators weights, and 4. absolute versus relative indicator contributions (Cenfetelli and Bassellier 2009). Table 6 provides an overview of the test statistics. For the first step (multicollinearity testing), the variance inflation factors (VIFs) are calculated using SPSS. All VIFs are below the maximum threshold of 5.0, recommended by Hair et al. (2011) and Walther et al. (2013). The results reveal that multicollinearity is not an issue in this article. Steps two to four are based on calculated values and test statistics using SmartPLS. The second step (the effect of the number of indicators and non-significant weights) deals with the problem that a large number of indicators cause non-significant weights. The results show that the indicators PR4, PR7 and OR5 are not significant (i.e., illustrated by a high p-value), which has to be considered in the following steps. Cenfetelli and Bassellier (2009) also state that this should not be misinterpreted concerning any irrelevance of the indicators. The only interpretation of this issue is that some indicators have a lower influence than others. In order to gain a deeper understanding, this article continues with step three (co-occurrence of negative and positive indicators weights). No indicator has negative weights; therefore this is not an issue in the article. Step four (absolute versus relative indicator contributions) needs to be conducted by reporting the respective loadings. The loadings indicate that an “indicator could have only a small formative impact on the construct (shown by a low weight), but it still could be an important part of the construct (shown by a high loading)” (Söllner et al. 2012). Concerning the issues with PR4, PR7 and OR5, which show non-significant or low weights, but very high loadings (i.e., higher than 0.7), no further improvements (e.g., dropping indicators) have to be performed (Cenfetelli and Bassellier 2009; Hair, Ringle, and Sarstedt 2011; Hair et al. 2013).

| Formative Indicators | P.C. | VIF | Weights | p-value | Load |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|------------|----------------|----------------|-------------|
| Within the context of Social CRM, the company ... | | | | | |
| Infrastructure Performance | | | | | |
| Cultural Performance | 0.443 | | | < 0.01 | |
| IN1* integrates Social CRM into the company culture. | | 1.000 | 0.303 | < 0.01 | 0.686 |
| IN2* considers cultural aspects. | | 1.000 | 0.822 | < 0.01 | 0.963 |
| IT Performance | 0.469 | | | < 0.01 | |
| IN3* provides an online brand community to interact with customers e.g., about service or product-related content. | | 1.000 | 0.399 | < 0.01 | 0.784 |
| IN4* has established a good infrastructure (e.g., IT resources). | | 1.000 | 0.731 | < 0.01 | 0.941 |
| Process Performance | | | | | |
| Company-wide Performance | 0.531 | | | < 0.01 | |
| PR1* improves organizational processes and activities so that they are more customer-oriented. | | 2.059 | 0.339 | < 0.01 | 0.875 |
| PR2* supports sales activities by other users. | | 2.051 | 0.43 | < 0.01 | 0.923 |
| PR3* improves ubiquitous communication between the customers and the company. | | 1.747 | 0.349 | < 0.01 | 0.878 |
| Department-specific Performance | 0.345 | | | < 0.01 | |
| PR4 improves the level of knowledge about a customer through new customer insights. | | 2.296 | 0.138 | 0.095 | 0.845 |
| PR5* enables a more efficient and effective segmentation (e.g., market and customer segmentation). | | 2.277 | 0.376 | 0.015 | 0.907 |
| PR6* improves the involvement of customers as co-creators (e.g., in the innovation process). | | 2.937 | 0.27 | 0.012 | 0.872 |
| PR7 enhances the effectiveness of company-initiated interactions with customers. | | 4.609 | 0.129 | 0.149 | 0.887 |
| PR8* improves the efficient and effective arrangement of target-oriented customer events. | | 3.122 | 0.231 | 0.033 | 0.836 |
| Customer Performances | | | | | |
| Indirect Customer Performance | 0.480 | | | < 0.01 | |
| CU1* enhances and simplifies the exchange of information between consumers. | | 1.641 | 0.281 | < 0.01 | 0.808 |
| CU2* enhances the perceived relationship quality of customers with the company. | | 2.370 | 0.390 | < 0.01 | 0.910 |
| CU3* increases customer interest in company products, services and/or company activities. | | 1.646 | 0.452 | < 0.01 | 0.925 |
| Direct Customer Performance | 0.200 | | | 0.077 | |
| CU4* improves personalized and customer-oriented products and services. | | 1.000 | 0.326 | < 0.01 | 0.787 |
| CU5* improves customer access to a variety of support options for interacting with the company. | | 1.000 | 0.770 | < 0.01 | 0.965 |
| Organizational Performance | | | | | |
| Monetization Performance | 0.354 | | | < 0.01 | |
| OR1* increases the success of newly introduced or developed products and services. | | 1.867 | 0.302 | < 0.01 | 0.843 |
| OR2* increases customer value over the relationship lifespan. | | 2.354 | 0.314 | < 0.01 | 0.897 |
| OR3* increases the company's profit and/or decreases costs. | | 1.757 | 0.496 | < 0.01 | 0.933 |
| Intangible Performance | 0.392 | | | < 0.01 | |
| OR4* increases the efficiency and effectiveness of business activities (e.g., increases the efficiency of supply chain management). | | 1.999 | 0.584 | < 0.01 | 0.914 |
| OR5 increases brand awareness and brand recognition (e.g., by means of customer recommendations). | | 1.627 | 0.036 | 0.270 | 0.733 |
| OR6* secures a competitive advantage. | | 1.537 | 0.497 | < 0.01 | 0.885 |
| P.C. = Path Coefficient between 1 st - and 2 nd -order construct; VIF = Variance Inflation Factor; Load. = Loadings; * p-value < 0.05 | | | | | |

Table 6: Test statistics for the formative measurement model

To investigate all relationships of the measurement model, the interrelationship between the first- and second-order constructs have to be considered. Due to the fact of having eight first-order constructs (cultural-, IT performance etc.), resulting in four second-order constructs (infrastructure performance etc.), the path coefficients have to be investigated. Seven out of eight interrelationships reveal highly significant path coefficients (i.e., p-value < 0.01). Based on the high, but still significant, p-value of “Direct Customer Performance” (i.e., p-value < 0.10), no further improvements have to be performed. To conclude, the measurement model is well-suited and validated within the Social CRM context.

4.2 Structural Model

Having established the appropriateness of the measures, the structural model is tested with the outlined parameter setting. Three path coefficients (H1, H3, H4) show significant structural relationships (p-value lower than 0.05). In contrast, the derived hypotheses (H2, H5) reveal non-significant structural relationships (Figure 3).

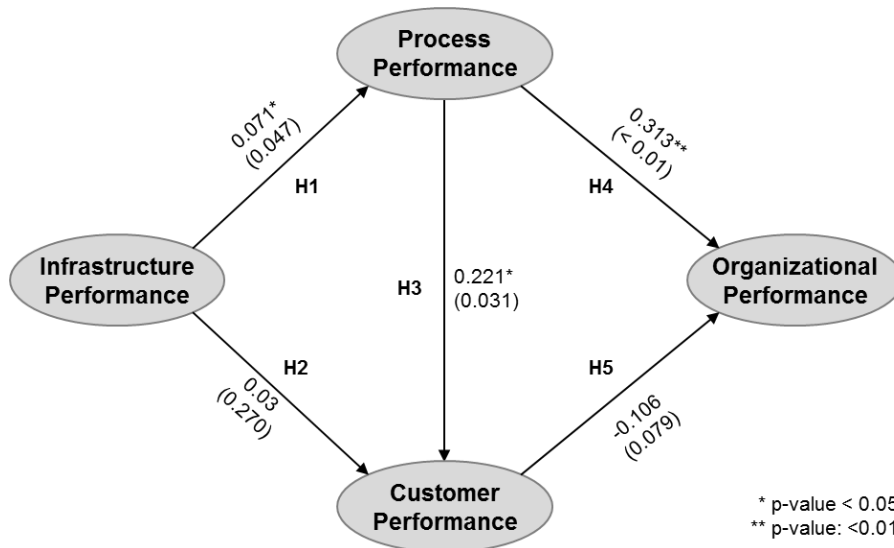


Figure 3: Result of the evaluated Social CRM performance model

In addition, two quality criteria are presented (i.e., f^2 , GoF) (Gefen et al., 2011; Wetzels et al., 2009). The f^2 criteria highlight possible omission of structural relationships. All calculated values are below the threshold of 0.02 (Wetzels et al. 2009). Therefore, it can be stated that no important structural relationships are omitted. The Goodness of Fit (GoF) criteria is “defined as the geometric mean of the average communality and average R^2 (for endogenous constructs)” (Wetzels et al. 2009). The calculated value of 0.849 is above the threshold of 0.36 and indicate a well global performance of the structural model (Tenenhaus et al. 2005).

5 Discussion and Implications

The article makes several important contributions by presenting an empirically evaluated performance model for Social CRM. The four adopted constructs (infrastructure performance, process performance, customer performance and organizational performance) are well-suited for the Social CRM context. As outlined in the hypotheses development section, the first hypothesis can be supported, starting that

IT and cultural aspects enable a company to implement effective and efficient Social CRM processes (Chuang and Lin 2013; Ernst et al. 2011; Lee et al. 2010; Wang and Feng 2012). According to Chen et al. (2009) and Liu et al. (2006), hypothesis three can be supported. The knowledge of, e.g., customer insights enables a better customer interaction, provides offerings of individual products and services etc. Additionally, the support of hypothesis four is not really surprising (Chen et al. 2004; Dutu and Hålmåjan 2011; Ernst et al. 2011; Harrigan et al. 2010; Reinartz, Krafft, and Hoyer 2004). In particular, process performance has a highly significant association with organizational performance. To conclude, it can be stated that the internal performance aspects (i.e., infrastructure, process and organizational) are well-suited for the Social CRM context. However, the two additional results show no support (hypotheses two and five). Compared to the previous statement, customer performance neither has an association with organizational performance nor serves as a mediator for infrastructure performance. One possibility is the maturity level of already implemented Social CRM activities. Companies are on an early stage of this process. As interviews with practitioners show, companies are starting to implement Social CRM in a testable and internal setting, i.e., by creating a Social CRM campaign. Therefore, the internal performance aspects are significant influence factors. Companies are still neglecting the effect of a good communicated added value for their customers, which lead to the non-significant influence factor as well as mediator for the organizational performance.

The study has various implications for the scientific community. Firstly, the resulting measurement model facilitates the use of new indicators and corresponding constructs for measuring Social CRM performance. Secondly, the rigorous nature of the study enables researchers to adopt and apply the measurement model for their own research. Finally, the holistic approach, including different dimensions of performance, generates deeper insights into Social CRM performance within a company and guides future research activities.

Three practical implications in particular can be stated. First, the model facilitates a control system for current Social CRM activities, e.g., an appraisal of social campaigns, considering various aspects of effective or ineffective campaigns. Second, it enables the justification of current and future Social CRM initiatives and engagements in a company, e.g., spending money on new investments in Social CRM processes, like increasing the total number of customer touch-points, which have a strong influence on the organizational performance. Finally, companies can detect clearly defined strength and weaknesses of their Social CRM activities. To conclude, the Social CRM performance model generates deeper insights into company's performance interrelationships and provides a control system, in order to assess Social CRM activities and enhance organizational performance.

6 Limitations and further Research

Three potential limitations constrain the results of this research. Firstly, despite the highly significant values of the measurement model (i.e., the statistical test values), there may be missing formative indicators, which should be included in the model. Secondly, due to the fact that the study is the first evaluated performance model for Social CRM, conducting a transferability test is not possible (Cenfetelli and Bassellier 2009). Finally, the study does not control the maturity level of the companies, which could influence the results.

One promising approach for further research is an extension of the Social CRM performance model based on the resource-based view. An investigation of resources (e.g., Social CRM technology use) and an empirical investigation of capabilities (e.g., processes) can be tested statistically. For example, the impact of Social CRM capabilities on performance (Rapp et al., 2010), or the impact of Social CRM technology use on performance (Zablah et al., 2012). To conclude, the rigorous and systematically derived results presented in the article form a sound basis for further research projects.

References

- Ahearne, Michael, Douglas E. Hughes, and Niels Schillewaert (2007), "Why sales reps should welcome information technology: Measuring the impact of CRM-based IT on sales effectiveness," *International Journal of Research in Marketing*, 24 (4), 336–349.
- , R. Jelinek, and Adam Rapp (2005), "Moving beyond the direct effort of SFA adoption on salesperson performance: Training and support as key moderating factors," *Industrial Marketing Management*, 34 (4), 379–388.
- Akroush, Mamoun N., Samer E. Dahiyat, Hesham S. Gharaibeh, and Bayan N. Abu-Lail (2011), "Customer relationship management implementation: An investigation of a scale's generalizability and its relationship with business performance in a developing country context," *International Journal of Commerce and Management*, 21 (2), 158–191.
- Alvarez, Gene (2013), "Hype Cycle for E-Commerce 2013," Gartner, Inc.
- Askool, Sanaa and Keiichi Nakata (2011), "A conceptual model for acceptance of social CRM systems based on a scoping study," *AI & SOCIETY*, 26 (3), 205–220.
- Becker, Jan U., Goetz Greve, and Sönke Albers (2009), "The impact of technological and organizational implementation of CRM on customer acquisition, maintenance, and retention," *International Journal of Research in Marketing*, 26 (3), 207–215.
- Vom Brocke, J., A. Simons, B. Niehaves, K. Riemer, R. Plattfaut, and A. Cleven (2009), "Reconstructing the Giant: On the Importance of Rigour in Documenting the Literature Search Process," in *Proceedings of the 17th European Conference on Information Systems*, Verona, Italy, 3226–3238.
- Cenfetelli, Ronald T. and Geneviève Bassellier (2009), "Interpretation of Formative Measurement in Information Systems Research," *MIS Quarterly*, 33 (4), 689–707.
- Chen, Jashen, Russell K. H. Ching, Eldon Y. Li, and Yiling Liao (2004), "An Exploratory Study of the Effects of CRM Practices on CRM Effectiveness and Business Performance," in *The Fourth International Conference on Electronic Business*, 249–254.
- Chen, Ja-Shen, H. J. Rebecca Yen, Eldon Y. Li, and Russell K. H. Ching (2009), "Measuring CRM effectiveness: Construct development, validation and application of a process-oriented model," *Total Quality Management & Business Excellence*, 20 (3), 283–299.

- Chin, Wynne W. (2010), "How to Write Up and Report PLS Analyses," in *Handbook of Partial Least Squares*, V. Esposito Vinzi, W. W. Chin, J. Henseler, and H. Wang, eds., Berlin, Heidelberg: Springer-Verlag, 655–690.
- Chuang, Shu-Hui and Hong-Nan Lin (2013), "The roles of infrastructure capability and customer orientation in enhancing customer-information quality in CRM systems: Empirical evidence from Taiwan," *International Journal of Information Management*, 33 (2), 271–281.
- Coltman, Tim (2007), "Can Superior CRM Capabilities Improve Performance in Banking Can Superior CRM Capabilities Improve Performance in Banking," *Journal of Financial Services Marketing*, 12 (2), 102–114.
- , Timothy M. Devinney, and David F. Midgley (2011), "Customer relationship management and firm performance," *Journal of Information Technology*, 26 (3), 205–219.
- Diamantopoulos, Adamantios and Heidi M. Winklhofer (2001), "Index Construction with Formative Indicators: An Alternative to Scale Development," *Journal of Marketing Research*, 38 (2), 269–277.
- Dutu, Cristian and Horañiu Hălmăjan (2011), "The Effect of Organizational Readiness on CRM and Business Performance," *International Journal of Computers*, 5 (1), 106–114.
- Ernst, Holger, Wayne D. Hoyer, Manfred Krafft, and Katrin Krieger (2011), "Customer relationship management and company performance—the mediating role of new product performance," *Journal of the Academy of Marketing Science*, 39 (2), 290–306.
- Fornell, Claes and David F. Larcker (1981), "Evaluating Structural Equation Models with Unobservable Variables and Measurement Error," *Journal of Marketing Research*, 18 (1), 39–50.
- Gefen, David, Edward E. Rigdon, and Detmar Straub (2011), "An Update and Extension to SEM Guidelines for Administrative and Social Science Research," *MIS Quarterly*, 35 (2), 3–14.
- Grabner-Kraeuter, Sonja, Gernot Moedritscher, Martin Waiguny, and Werner Mussnig (2007), "Performance Monitoring of CRM Initiatives," in *Proceedings of the 40th Annual Hawaii International Conference on System Sciences*, Waikoloa, Hawaii, 150–160.
- Greenberg, Paul (2010), "The impact of CRM 2.0 on customer insight," *Journal of Business & Industrial Marketing*, 25 (6), 410–419.
- Hair, Joseph F., G. Tomas M. Hult, Christian M. Ringle, and Marko Sarstedt (2013), *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*, Thousand Oaks: SAGE Publications, Inc.
- , Christian M. Ringle, and Marko Sarstedt (2011), "PLS-SEM: Indeed a Silver Bullet," *Journal of Marketing Theory and Practice*, 19 (2), 139–152.
- Harrigan, Paul, Andreas Schroeder, Israr Qureshi, Yulin Fang, Patrick Ibbotson, Elaine Ramsey, and Darren Meister (2010), "Internet Technologies, ECRM Capabilities,

- and Performance Benefits for SMEs: An Exploratory Study,” *International Journal of Electronic Commerce*, 15 (2), 7–45.
- Hulland, J. (1999), “Use of partial least squares (PLS) in strategic management research: a review of four recent studies,” *Strategic Management Journal*, 20 (2), 195–204.
- Jain, Rajnish, Sangeeta Jain, and Upinder Dhar (2003), “Measuring Customer Relationship Management,” *Journal of Services Research*, 2 (2), 97–109.
- Jayachandran, Satish, Subhash Sharma, Peter Kaufman, and Pushkala Raman (2005), “The Role of Relational Information Processes and Technology Use in Customer Relationship Management,” *Journal of Marketing*, 69 (4), 177–192.
- Kalyar, M. N., N. Rafi, and M. Azeem (2013), “Factors Affecting Company Performance and New Produkt Performance,” *Journal of Sustainable Development Studies*, 2 (1), 127–151.
- Kaplan, Andreas M. and Michael Haenlein (2010), “Users of the world, unite! The challenges and opportunities of Social Media,” *Business Horizons*, 53 (1), 59–68.
- Keramati, Abbas, Hamed Mehrabi, and Navid Mojir (2010), “A process-oriented perspective on customer relationship management and organizational performance: An empirical investigation,” *Industrial Marketing Management*, 39 (7), 1170–1185.
- Kim, Byeong Yong (2008), “Mediated Effects of Customer Orientation on Customer Relationship Management Performance,” *International Journal of Hospitality & Tourism Administration*, 9 (2), 192–218.
- Kim, Hyung-Su and Young-Gul Kim (2009), “A CRM performance measurement framework: Its development process and application,” *Industrial Marketing Management*, 38 (4), 477–489.
- Kim, Jonghyeok, Euiho Suh, and Hyunseok Hwang (2003), “A Model for Evaluating the Effectiveness of CRM Using the Balanced Scorecard,” *Journal of Interactive Marketing*, 17 (2), 5–19.
- Kimiloglu, Hande and Hülya Zarali (2009), “What signifies success in e-CRM?,” *Marketing Intelligence & Planning*, 27 (2), 246–267.
- Küpper, Torben, Reinhard Jung, Tobias Lehmkühl, Sebastian Walther, and Alexander Wieneke (2014), “Performance Measures for Social CRM: A Literature Review,” in *Proceedings of the 27th Bled eConference*, Bled, Slovenia, 125–139.
- , Alexander Wieneke, Tobias Lehmkühl, Reinhard Jung, Sebastian Walther, and Torsten Eymann (2015), “Measuring Social CRM Performance: A Preliminary Measurement Model,” in *Proceedings of the 12th International Conference on Wirtschaftsinformatik*, Osnabück, Deutschland, 887–901.
- Lee, Chao-Hsiung, Shaio Yan Huang, F. Barry Barnes, and Li Kao (2010), “Business performance and customer relationship management: The effect of IT, organisational contingency and business process on Taiwanese manufacturers,” *Total Quality Management & Business Excellence*, 21 (1), 43–65.

- Lehmkuhl, Tobias and Reinhard Jung (2013), "Towards Social CRM - Scoping the Concept and Guiding Research," in *Proceedings of the 26th Bled eConference*, Bled, Slovenia, 190–205.
- Lin, Chad, Koong Lin, Yu-An Huang, and Wen-Liang Kuo (2006), "Evaluation of Electronic Customer Relationship Management: The Critical Success Factors," *The Business Review, Cambridge*.
- Liu, Yan, Chang-Feng Zhou, and Ying-Wu Chen (2006), "Determinants of E-CRM in Influencing Customer Satisfaction," in *PRICAI 2006: Trends in Artificial Intelligence*, Q. Yang and G. Webb, eds., Berlin, Heidelberg: Springer-Verlag, 767–776.
- Llamas-Alonso, María Rosa, Ana Isabel Jiménez-Zarco, María Pilar Martínez-Ruiz, and John Dawson (2009), "Designing a Predictive Performance Measurement and Control System to Maximize Customer Relationship Management Success," *Journal of Marketing Channels*, 16 (1), 1–41.
- Moore, Gary C. and Izak Benbasat (1991), "Development of an Instrument to Measure the Perceptions of Adopting an Information Technology Innovation," *Information Systems Research*, 2 (3), 192–222.
- Mumuni, Alhassan G. and Kelley O'Reilly (2014), "Examining the Impact of Customer Relationship Management on Deconstructed Measures of Firm Performance," *Journal of Relationship Marketing*, 13 (2), 89–107.
- Neely, Andy, Mike Gregory, and Ken Platts (1995), "Performance measurement system design - A literature review and research agenda," *International Journal of Operations & Production Management*, 15 (4), 80–116.
- Nunnally, J. C. and I. H. Bernstein (1994), *Psychometric Theory*, New York: McGraw-Hill.
- Öztayşi, Başar, Tolga Kaya, and Cengiz Kahraman (2011), "Performance comparison based on customer relationship management using analytic network process," *Expert Systems with Applications*, 38 (8), 9788–9798.
- , Selime Sezgin, and Ahmet Fahri Özok (2011), "A measurement tool for customer relationship management processes," *Industrial Management & Data Systems*, 111 (6), 943–960.
- Padmavathy, C., M. S. Balaji, and V. J. Sivakumar (2012), "Measuring effectiveness of customer relationship management in Indian retail banks," *International Journal of Bank Marketing*, 30 (4), 246–266.
- Peltier, James W., Debra Zahay, and Donald R. Lehmann (2013), "Organizational Learning and CRM Success: A Model for Linking Organizational Practices, Customer Data Quality, and Performance," *Journal of Interactive Marketing*, 27 (1), 1–13.
- Rapp, Adam, Kevin J. Trainor, and Raj Agnihotri (2010), "Performance implications of customer-linking capabilities: Examining the complementary role of customer orientation and CRM technology," *Journal of Business Research*, 63 (11), 1229–1236.

- Reinartz, Werner, Manfred Krafft, and Wayne D. Hoyer (2004), "The Customer Relationship Management Process: Its Measurement and Impact on Performance," *Journal of Marketing Research*, 41 (3), 293–305.
- Roh, Tae H., Cheol K. Ahn, and Ingoo Han (2005), "The priority factor model for customer relationship management system success," *Expert Systems with Applications*, 28 (4), 641–654.
- Sedera, Darshana and Wenjuan Wang (2009), "Towards a CRM and SCM Benefits Measurement Model," in *Proceedings of the International Conference on Information Systems*, Phoenix, USA, 1–12.
- Shafia, Mohammad Ali, Mohammad Mahdavi Mazdeh, Mahboobeh Vahedi, and Mehrdokht Pournader (2011), "Applying fuzzy balanced scorecard for evaluating the CRM performance," *Industrial Management & Data Systems*, 111 (7), 1105–1135.
- Söllner, Matthias, Axel Hoffmann, Holger Hoffmann, Arno Wacker, and Jan Marco Leimeister (2012), "Understanding the Formation of Trust in IT Artefacts," in *Proceedings of the 33rd International Conference on Information Systems*, Orlando, USA, 1–18.
- Tenenhaus, M., V. E. Vinzi, Y.-M. Chatelin, and C. Lauro (2005), "PLS path modeling," *Computational Statistics and Data Analysis*, 48 (1), 159–205.
- Thongpapanl, Narongsak and Abdul Rehman Ashraf (2011), "Enhancing online performance through Website content and personalization," *Journal of Computer Information Systems*, 52 (1), 3–14.
- Trainor, Kevin J. (2012), "Relating Social Media Technologies to Performance: A Capabilities-Based Perspective," *Journal of Personal Selling & Sales Management*, 32 (3), 317–331.
- , James Andzulis, Adam Rapp, and Raj Agnihotri (2014), "Social media technology usage and customer relationship performance: A capabilities-based examination of social CRM," *Journal of Business Research*, 67 (6), 1201–1208.
- Walther, Sebastian, Darshana Sedera, Saonee Sarker, and Torsten Eymann (2013), "Evaluating Operational Cloud Enterprise Systems Success: An Organizational Perspective," in *Proceedings of the 21st European Conference on Information Systems*, Utrecht, Netherlands, 1–12.
- Wang, Wenjuan, Darshana Sedera, and Felix Tan (2009), "Measuring CRM and SCM Benefits: A Preliminary Measurement Model," in *Proceedings of the 13th Pacific Asia Conference on Information Systems*, Hyderabad, India, 1–12.
- Wang, Yonggui and Hui Feng (2012), "Customer relationship management capabilities - Measurement, antecedents and consequences," *Management Decision*, 50 (1), 115–129.
- Wetzels, Martin, Gaby Odekerken-Schröder, and Claudia van Oppen (2009), "Using PLS Path Modeling for Assessing Hierarchical Construct Models: Guidelines and Empirical Illustration," *MIS Quarterly*, 33 (1), 177–195.

- Wu, Fang, Vijay Mahajan, and Sridhar Balasubramanian (2003), “An Analysis of E-Business Adoption and its Impact on Business Performance,” *Journal of the Academy of Marketing Science*, 31 (4), 425–447.
- Zablah, Alex R., Danny N. Bellenger, Detmar W. Straub, and Wesley J. Johnston (2012), “Performance Implications of CRM Technology Use: A Multilevel Field Study of Business Customers and Their Providers in the Telecommunications Industry,” *Information Systems Research*, 23 (2), 418–435.
- Zinnbauer, Markus A and Markus Eberl (2005), “Measuring Customer Relationship Management Performance: A Consumer-Centric Approach,” *Journal of Marketing Channels*, 12 (3), 79–104.

Appendix

- | | | | | |
|-----------------------------|-------------------------|------------------------------|-----------------------------------|--------------------------------|
| 1. Becker et al. (2009) | 7. Wang and Feng (2012) | 13. Coltman (2007) | 19. Chuang and Lin (2013) | 25. Coltman et al. (2011) |
| 2. Chen et al. (2009) | 8. Zablah et al. (2012) | 14. Kalyar et al. (2013) | 20. Thongpapanl and Ashraf (2011) | 26. Trainor et al. (2014) |
| 3. Kim (2008) | 9. Ernst et al. (2011) | 15. Harrigan et al. (2010) | 21. Wu et al. (2003) | 27. Jayachandran et al. (2005) |
| 4. Padmavathy et al. (2012) | 10. Chen et al. (2004) | 16. Dutu and Hålmäjan (2011) | 22. Akroush et al. (2011) | 28. Ahearne et al. (2007) |
| 5. Reinartz et al. (2004) | 11. Rapp et al. (2010) | 17. Peltier et al. (2013) | 23. Lee et al. (2010) | 29. Ahearne et al. (2005) |
| 6. Roh et al. (2005) | 12. Liu et al. (2006) | 18. Keramati et al. (2010) | 24. Mumuni and O'Reilly (2014) | |