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# THE IMPACT OF SOCIAL ENGAGEMENT ON CUSTOMER PROFITABILITY – INSIGHTS FROM A DIRECT BANKING INSTITUTION'S ONLINE CUSTOMER NETWORK

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# THE IMPACT OF SOCIAL ENGAGEMENT ON CUSTOMER PROFITABILITY – INSIGHTS FROM A DIRECT BANKING INSTITUTION’S ONLINE CUSTOMER NETWORK

*Research paper*

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## Abstract

*The digital transformation leads to an enormous change in the customer-firm relationship. Recently launched firm-sponsored online customer networks enable customers to actively interact with the company and other customers in form of social engagement activities like asking and answering questions or receiving feedback. Despite the increasing importance of online customer networks, existing literature still lacks an in-depth understanding of the impact of social engagement on customer profitability based on real-world data regarding both customers’ social engagement activities and customers’ profitability. Our paper therefore aims at providing insights about the relationship between different forms of customers’ social engagement and customers’ profitability based on an extensive dataset of a German direct banking institution’s online customer network. We found, for example, that – in contrast to posting answers – raising questions in the online customer network is associated with significantly higher profitability of the respective customers. Our study leads to interesting results exceeding existing research and helping practitioners to manage online customer networks more effectively and to focus on and foster particularly promising forms of customers’ social engagement.*

*Keywords: Online Customer Network, Social Engagement, Customer Profitability, Direct Banking Institution.*

## 1 Introduction

The enormous growth of social media in recent years tremendously altered the relationship between customers and firms (Internet Live Stats, 2016; eMarketer, 2016) and has not only turned customers’ small-scale offline friendship networks into far-reaching online social relationship networks, but also changed the spread of information and influence among customers dramatically (e.g., Kaplan and Haenlein, 2010). In addition to their social media presence on platforms like Facebook or Twitter, companies seek to establish firm-sponsored online customer networks in order to create an ongoing beneficial relationship towards current and potential customers (Porter and Donthu, 2008). Online customer networks are defined as specialised, non-geographically bound firm-sponsored online communities whose members are interested in the firm’s products, services, or topics and perform different forms of social engagement to interact with each other (Muniz and O’Guinn, 2001; McAlexander et al., 2002). An example is the online customer network of *Oracle*<sup>1</sup> where millions of customers are connected worldwide to share experiences about the company’s products, ask and answer questions, and help each other with

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<sup>1</sup> <http://community.oracle.com>

specific problems associated with the company's products and services. The Oracle community, as one among many examples for an online customer network (e.g., Hong, 2015), displays the dramatic change of customers' role from traditional passive consumers towards creators and publishers of information, opinions, and emotions about products and services (Di Gangi et al., 2010; Roberts and Dinger, 2016). Due to the social engagement of customers in online customer networks, the influence of customers on other customers as well as on the company itself has increased (van Doorn et al., 2010; Brodie et al., 2011; Sashi, 2012).

Recent studies indicate that customers' social engagement in an online customer network is an opportunity to gain competitive advantage through increased customer loyalty which in turn may improve sales and enhance profitability (Martins and Patrício, 2013; IDG Enterprise, 2016; Binder and Hanssens, 2015; Kumar et al., 2007). A study by *Bain & Company*, for instance, observed a 20% to 40% growth in purchase expenditures attributable to customers' social engagement on companies' online social media platforms (Barry et al., 2011). Customers engaged in online customer networks are therefore seen as valuable generators of content, considerable co-creators of customer value, and influencing recommenders of products and services towards other customers (Jaakkola and Alexander, 2014; Hajli, 2014).

Against this background, researchers started to investigate the impact of a customer's social engagement in online customer networks on his/her specific economic characteristics such as purchase intention, buying and selling behaviour, financial risk-seeking tendencies, and customer profitability (Algesheimer et al., 2005; Algesheimer et al., 2010; Zhu et al., 2012; Goh et al., 2013; Manchanda et al., 2015; Klier et al., 2016). Due to limitations of existing research it is, however, still rather unclear if social engagement is indeed associated with higher customer profitability, whether different forms of social engagement play different roles, and how strong the potential impact on customer profitability really is. Actually, there is a lack of in-depth knowledge about the relationship between social engagement and customer profitability. We aim at broadening existing knowledge regarding the influencing factors of successful online customer networks by analysing different forms of customers' social engagement in relationship to customer profitability by using a unique dataset of a German direct banking institution. The dataset contains information about customers' social engagement in the firm-sponsored online customer network, demographic factors like age and place of residence, as well as individual customers' financial transaction data.

The remainder of this paper is organized as follows: Section 2 provides an overview about the related literature. In Section 3, the case setting and the dataset are described. Section 4 explains our research model. In Section 5, we present the results of our analysis which are discussed in detail in Section 6. Finally, in Section 7 we conclude our paper with a brief summary of the findings.

## 2 Theoretical Background

### 2.1 Research on online customer networks and social engagement

In recent years, the concept of social engagement attracted much attention among practitioners and researchers alike (Kumar et al., 2010; Brodie et al., 2011; Vivek et al., 2012; Dessart et al., 2016). Social engagement in general has been researched in several disciplines such as education, psychology, and management (Erat et al., 2006; Vivek et al., 2014). Triggered by the enormous growth of social media, one particular focus is on customers' social engagement in online customer networks (e.g., Erat et al., 2006; Dessart et al., 2015). Online customer networks are specialised non-geographically bound firm-sponsored online communities which focus on company-related products, services, or topics in order to enhance the communication and information exchange between company and customers and among customers (Muniz and O'Guinn, 2001; McAlexander et al., 2002). Companies therefore started to establish online customer networks in order to be able to interact more intensively with their customers, to maintain social relations marked by mutuality and social bonds, and to allow customers to interact with each other in a variety of ways in comparison to the previous somewhat constricted possibilities in the pre-internet era (Muniz and O'Guinn, 2001; McAlexander et al., 2002; Dholakia et al., 2004; Wiertz and

Ruyter, 2007; Brodie et al., 2011; Gummerus et al., 2012). Instead of one-directional communication between company and customers, for example in form of a television commercial, multiple forms of dialogues are nowadays possible, not only between customers and company but also between customers among themselves (Dholakia and Firat, 2006; Gummerus et al., 2012; Sashi, 2012). Matzler et al. (2011) summarized three important factors of online customer networks which help companies to strengthen their relationship towards their customers: 1) online customer networks are a valuable source of information about the market and the corresponding customers (e.g., Füller et al., 2008), 2) online customer networks form a rallying point for customers who are highly engaged with the product or company and are therefore a source for product development and co-creation (e.g., Bagozzi and Dholakia, 2002), and 3) online customer networks are an ideal basis for building up customer-to-company and customer-to-customer relationships and creating strong brand advocates (Algesheimer et al., 2005; Bagozzi and Dholakia, 2006; Zhang et al., 2015). Online customer networks are in general characterized as enabler of social presence, hence the degree of acoustic, visual, and physical contact that can be achieved through communication between its members (Kaplan and Haenlein, 2010). Through their focus on information sharing, they are further suited to avoid uncertainty and reduce ambiguity (Kaplan and Haenlein, 2010; Gummerus et al., 2012). Finally, online customer networks support the users' desire of self-presentation and self-disclosure (e.g., Kaplan and Haenlein, 2010). Summarized, companies, on the one hand, aim to engage with loyal and informative customers, enhance customer relationships, and increase sales (e.g., Algesheimer et al., 2005). Customers, on the other hand, focus on personal benefits when performing social engagement activities with other customers online like acquiring information about products and services or experience social respect, hence the feeling to be useful and needed as a community member (Schau et al., 2009; Nambisan and Baron, 2010; Gummerus et al., 2012).

Social engagement, as an elementary "*concept [...] to capture customers' total set of behavioural activities*" (Gummerus et al., 2012, p. 857), describes customers' online customer network behaviour in form of active participation like asking and answering forum questions and giving and receiving feedback, for example in form of likes (Gummerus et al., 2012; Stone and Woodcock, 2013). To understand the nature of customers' social engagement, van Doorn et al. (2010) proposed a model which comprises five motivational drivers of customers' social engagement behaviours towards a company: valence, form and modality, scope, nature of its impact, and goals. Customers' social engagement therefore can 1) have a different polarity (e.g., positive or negative word-of-mouth), 2) be expressed in various forms depending on the available resources (e.g., time vs. money) and results in different types of outcome (e.g., service improvement), 3) vary in scope and momentary (e.g., local vs. global scope), 4) be distinguished according its form of impact (immediacy, intensity, breadth, or longevity), and 5) be based on different purposes by the customers (e.g., regarding direction, wilful intention by the customer, or consistency between customer and company goals) (van Doorn et al., 2010; Gummerus et al., 2012). Nature and extent of social engagement depend highly on the individual users and their personality (Ross et al., 2009; Realo et al., 2011), internet usage patterns (Correa et al., 2010; Brandtzæg et al., 2011), and demographic factors like age or place of residence (e.g., Zywicki and Danowski, 2008). With respect to customers' intentions, Wirtz et al. (2013) identified company-related, social, and functional drivers that motivate and affect customers' social engagement. *Brand identification* aims at the associations (functional, emotional, and reputational) a customer makes out of his/her identification with a certain product or company (Hughes and Ahearne, 2010; Wirtz et al., 2013). *Social benefits* describes a multitude of benefits to the users of an online customer network, such as receiving assistance from others (Dholakia et al., 2009) or maintaining and strengthening the social identity as a member of a social group (Hughes and Ahearne, 2010; Gummerus et al., 2012). *Functional benefits* arise from uncertainty reduction in purchase decisions (Weiss et al., 2008; Adjei et al., 2010), high quality, broad-based, and up-to-date information about a product or company (Porter and Donthu, 2008; Dholakia et al., 2009), and other monetary and normative incentives, such as price promotions and loyalty programs to encourage long term social engagement (e.g., Garnefeld et al., 2012). These benefits in turn are considered to enhance the willingness and amount of customers' social engagement in online customer networks (e.g., Wirtz et al., 2013). Overall, customers' social engagement is regarded as the key element of online customer

networks and describes underlying behavioural activities like discussions, relationship building, commenting, liking, knowledge acquisition, and opinion forming, hence the sum of all human communication and interaction through online customer networks (van Doorn et al., 2010; Gummerus et al., 2012; Brodie et al., 2013).

## 2.2 Research on customer profitability in online customer networks

Existing research about social engagement in online customer networks focuses merely on non-monetary aspects like the impact of online customer networks on brand awareness and image (e.g., Zhang et al., 2015) or the vast research area of customer value co-creation (e.g., Romero and Molina, 2011). Instead of focusing on customer profitability, research identified the importance of social engagement on customer loyalty (e.g., Dwivedi, 2015) and customer behaviour. However, so far there exists little research on the relationship between social engagement and monetary aspects.

As one of the first, Algesheimer et al. (2005) developed a conceptual framework focusing on customers' intentions in the context of the online customer network of a European car club. According to their study, customers' online behaviour induces corresponding social engagement activities which in turn may positively affect customer profitability. The authors, however, raise the question for future research whether all social engagement activities have a likewise positive impact. Subsequent research based on data from the online auction platform *ebay* about online customer network membership revealed mixed effects on customers' buying and selling behaviours (Algesheimer et al., 2010). The authors observed, against their expectation, no general positive influence of online customer network participation neither on the revenue nor on the number of bids placed. Partly, even a negative impact on the number of listings and the money spent was noted. By analysing customers' lending behaviour, Singh et al. (2015) investigated for the online customer network of the peer-to-peer microcredit provider *kiva.org* a positive impact of mere group membership on both the number of loans granted and the amount of loaned money. Kim and Ko (2012) examined customers' social media activities on luxury fashion brand fan pages to identify effects on purchase intentions and customer equity. By manually analysing content data of social networks, the authors noticed that enhanced social engagement can indeed have a positive effect on customer equity drivers and purchase intentions. Likewise, Goh et al. (2013) laid their focus on the economic value of a company's social media fan page. By analysing individual generated user content, the authors found a positive increase in purchase expenditures depending on stronger social engagement. Rishika et al. (2013) quantified customers' participation on a company's social media platform to investigate the impact on customer profitability. They observed a positive relationship between customers' social engagement, however limited to the number of page visits, and customer profitability. The study conducted by Manchanda et al. (2015) investigated the hypothesis that customers engaged in an online customer network also have an increased economic activity. Based on a dataset of an entertainment retailer with a recently launched online customer network, the results revealed significantly higher expenditures for customers participating in the retailer's online customer network. Controversially to most of previous research, Klier et al. (2016) did not observe higher profitability for customers with higher social engagement for the online customer network of a direct banking institution. Social engagement was measured for example in form of the number of group membership or the duration of network membership. The analysis, however, was conducted on a limited dataset for customers' social engagement activities and restricted to a very specific bank capital bond with correspondingly low turnover.

## 2.3 Research gap and intended contribution

Due to the influence on customers' purchase decisions, it is important to investigate the relationship between social engagement and profitability in order to enable a more effective management of online customer networks. Beside the general research about social engagement in the context of social media (e.g., Dessart et al., 2015; Kumar et al., 2016), research about customers' social engagement on a company-level and its impact on economic factors is still underdeveloped (e.g., Beckers et al., 2016). On the one hand, customers' social engagement is mostly investigated with focus on a single social engagement

activity. On the other hand, studies are not focusing on customer profitability itself (Algesheimer et al., 2010; Zhu et al., 2012; Singh et al., 2015). Moreover, most existing studies about social engagement in online customer networks lack an empirical basis and are “*predominantly exploratory in nature*” (Hollebeek et al., 2014, p. 149). Other studies with a more empirical focus are not able to establish a direct link between customers’ social engagement data and economic behaviour data (e.g., Algesheimer et al., 2005), are based merely on limited survey data (e.g., Kim and Ko, 2012), or were only able to manually link basic social media behaviour data with financial transaction data (Goh et al., 2013; Rishika et al., 2013). Among existing literature, the studies by Manchanda et al. (2015) and Klier et al. (2016) can be seen as complementary to our research. Manchanda et al. (2015) provided insights into the relationship between online customer network membership and customers’ financial behaviour. However, the study lacks a clear distinction between different forms of social engagement, focused merely on a small range of purchased goods, and considered loyalty card holders only. Klier et al. (2016) analysed social engagement data for a limited set of customers and distinguished them into buyers and non-buyers without observing significantly higher social engagement for the buyers. The dataset was, however, limited to only two different types of social engagement. In addition, the small number of customers actually buying the specific product under consideration restricts the generalizability of the study’s findings.

Based on existing literature, our study aims at extending existing research on the relationship between social engagement and customer profitability in online customer networks. Thereby, unlike previous research, we are able to investigate different forms of customers’ social engagement activities in combination with customer profitability in form of revenues generated by credit card for more than 100,000 members of the online customer network of a German direct banking institution. We are therefore neither forced to try to manually link social engagement data with corresponding financial data for a very limited set of customers, nor do we have to estimate respective customers’ revenues using more or less restrictive assumptions. Our paper contributes to research by providing novel in-depth findings about the relationship between different forms of social engagement like answers and questions including respective feedback in form of likes and dislikes as well as demographic factors like age and place of residence and customer profitability in the context of online customer networks on basis of an extensive and comprehensive dataset on both social engagement and customer profitability. We are therefore – as one of the first – able to give deeper insights into the interplay between social engagement and customer profitability. We help thereby companies to understand and manage customers’ social engagement possibilities in general and the impact of social engagement activities in particular within their online customer networks.

### 3 Case Setting and Data

The 2009-founded German direct banking institution offers a wide range of traditional and innovative financial products and services ranging from classical giro accounts to contemporary social lending services. Furthermore, the institution operates one of the most active financial online customer networks in Germany with more than 310,000 registered members which is consequentially regarded as major competitive advantage against competing financial institutions. The main features of the online customer network are the public forums where customers can discuss about financial topics, give mutual investment tips, evaluate financial products and advisors, and propose new products or services. Basically there are two forum types where customers can ask and answer questions. On the one hand, the group forum which serves as a discussion board where customers typically exchange experiences, opinions, and advice about a wide range of general financial topics like saving, tax reduction, or investment. On the other hand, the money forum where customers share concrete financial investment opportunities like stock trading strategies or investment opportunities, discuss current financial issues with other customers, or propose new financial products and services. Furthermore, posts in the money forum can be rated by each customer in form of likes and dislikes to account for a qualitative content assessment. Summed up, the main purpose of the online customer network is to foster customers’ interaction with the banking institution and between themselves.

For our research, the direct banking institution provided us with a dataset ranging from 23<sup>rd</sup> July 2015 to 22<sup>nd</sup> July 2016 containing information about 112,149 registered customers. Due to reasons of confidentiality, all personal details have been removed or anonymised prior to the transfer of the dataset. To account both for customers' social engagement activities and customers' financial transactions the dataset consists of three parts.

The first part refers to the customers' social engagement activities in the online customer network. For each customer, the dataset contains the number of questions and answers contributed to the group forum (*QuestionsGroup*, *AnswersGroup*) and the money forum (*QuestionsMoney*, *AnswersMoney*). Additionally, the money forum specific number of received likes (*LikesMoney*) and dislikes (*DislikesMoney*) are included. Considering customers' social engagement in form of questions (*QuestionsGroup*, *QuestionsMoney*) and answers (*AnswersGroup*, *AnswersMoney*) in discussion forums is consistent with existing literature (e.g., van Doorn et al., 2010). By investigating the online customer network of *ebay*, Algesheimer et al. (2010), for example, observed considerable social engagement activities in the numerous discussion forums. However, the authors lack a distinguishing between different forms of social engagement like answers and questions. Received feedback on social engagement activities in form of likes and dislikes (*LikesMoney*, *DislikesMoney*) reflects the network's appreciation for the quality of the customer's contributions to the online customer network (e.g., Stone and Woodcock, 2013). Existing research analysed feedback on social engagement activities and discovered a higher perceived quality due to positive feedback (e.g., Sashi, 2012; Swani et al., 2013; Zhu et al., 2013; Cheng et al., 2014). Negative feedback in contrary is attributable to less written questions and a lower quality of answers (e.g., Zhu et al., 2013; Cheng et al., 2014). The observed likes and dislikes are therefore able to indicate the quality of customers' social engagement.

The second part of the dataset contains information regarding customer profitability which is generally defined as "*the net dollar contribution made by individual customers to an organization*" (Mulhern, 1999, p. 26) and treats customers as an asset analogous to other economic units (Wyner, 1996). For our research, we use the sum of all credit card transactions per customer in EUR during the time period under observation (*Revenues*) to represent customer profitability. All customers registered in the online customer network account for a total revenue of 233,922,082.80 EUR. Contrary to existing research, we are therefore indeed able to investigate a broad range of customers' financial transactions and are neither limited to a certain product (e.g., Klier et al., 2016) nor a specific customer segment or retail channel (e.g., Manchanda et al., 2015).

Finally, the third part of the dataset contains basic demographic information about each customer's age in years (*Age*) and place of residence (*Residence*). Customers can be segmented in corresponding age groups and differentiated between rural and urban, whereby the latter is defined as cities with more than 100,000 inhabitants. Existing studies already used age and place of residence as control variables (e.g., Algesheimer et al., 2010; Karjaluo et al., 2015). A descriptive overview with respect to customers' age groups and place of residence is shown in Table 1. Most customers are in the age group of 30 – 39 years (26.69%), followed by the age group of 40 – 49 years (24.33%). In total, 44.65% of all customers live in an urban area. According to existing research, age is one of the most influential factors regarding internet usage (Duggan and Brenner, 2013; Duggan et al., 2015). Therefore, besides customer profitability (Algesheimer et al., 2010; Zhu et al., 2012; Kumar et al., 2016), social engagement activities in the online customer network may also vary depending on customer's age (Algesheimer et al., 2010; Karjaluo et al., 2015; Zhang et al., 2015). Additionally, regional aspects may influence customer profitability (Algesheimer et al., 2010; Kumar et al., 2016) as well as customers' social engagement (Zywica and Danowski, 2008; Algesheimer et al., 2010).

Number of Customers	Total	Age Group						Place of Residence	
		< 20	20 – 29	30 – 39	40 – 49	50 – 59	> 60	Rural	Urban
<b>Total (in %)</b>	112,149 (100.00)	719 (0.64)	17,090 (15.24)	29,929 (26.69)	27,287 (24.33)	22,588 (20.14)	14,536 (12.96)	62,069 (55.35)	50,080 (44.65)

Table 1. Descriptive information regarding customers' age and place of residence.

With focus on customers' social engagement and customer profitability, Table 2 presents the descriptive statistics. Regarding the total number of questions and answers, the group forum (34,272 posts) contains far less posts compared to the money forum (261,301 posts). This indicates a general higher interest of customers to discuss specific financial investment opportunities, current financial issues, or the institution's products. Furthermore, in both forums the number of answers (group forum: 27,634; money forum: 230,268) considerably exceeds the number of questions (group forum: 6,638; money forum: 31,033). This customers' willingness to discuss questions is also reflected in the response frequencies: In the money forum, one question is followed on average by more than seven answers; in the group forum by about four answers. In the group forum, 1,544 users wrote at least one question and 1,498 users posted at least one answer. Furthermore, in the money forum, 5,963 users wrote at least one question and 5,330 users posted at least one answer while 3,781 customers received likes and 3,126 users received dislikes. The relatively high maxima regarding *AnswersGroup* (1,522) and *AnswersMoney* (10,293) in combination with the high standard deviations (group forum: 9.99; money forum: 71.57) indicate the existence of few but very strong committed customers with a high number of social engagement activities. In sum, 8,117 customers were active in at least one forum while 40,280 customers generated revenues during the time period under observation. We observed average customer revenues of 1,996.65 EUR, with a minimum of 0.00 EUR, a maximum of 841,589.19 EUR, and a standard deviation of 7,655.35 EUR in the time period under observation.

	Variable	Total	Min	Max	Mean	Std. Dev.
<b>Social Engagement</b>	<i>QuestionsGroup</i>	6,638	0	391	0.059	2.29
	<i>AnswersGroup</i>	27,634	0	1,522	0.246	9.99
	<i>QuestionsMoney</i>	31,033	0	759	0.277	4.73
	<i>AnswersMoney</i>	230,268	0	10,293	2.053	71.57
	<i>LikesMoney</i>	98,315	0	5,592	0.877	33.43
	<i>DislikesMoney</i>	52,618	0	3,089	0.469	15.58
<b>Profitability</b>	<i>Revenues [EUR]</i>	223,922,082.80	0.00	841,589.19	1,996.65	7,665.35

Table 2. Descriptive information regarding customers' social engagement and profitability.

## 4 Research Model

Figure 1 depicts the research model to investigate the relationship between customers' social engagement and customer profitability. The demographic factors might additionally influence profitability and are important for monitoring possible disruptive effects and to reduce endogeneity issues. As discussed in Section 2.2, prior research started to analyse the relationship between customers' social engagement and diverse monetary aspects like for example customers' financial-related behaviours, purchase decisions, economic value, or profitability (e.g., Algesheimer et al., 2010; Zhu et al., 2012; Kim and Ko, 2012; Manchanda et al., 2015; Klier et al., 2016). In general, existing literature indicates that customers' social engagement goes along with higher customer profitability (Rishika et al., 2013; Karjaluoto et al., 2015; Manchanda et al., 2015; Kumar et al., 2016). Therefore, based on existing literature, we propose the following hypotheses:



H1: A higher number of group forum questions positively relates to higher revenues.

H2: A higher number of group forum answers positively relates to higher revenues.

H3: A higher number of money forum questions positively relates to higher revenues.

H4: A higher number of money forum answers positively relates to higher revenues.

Besides questions and answers in both forums, our dataset also includes information regarding received feedback on written posts in the money forum in form of likes and dislikes (*LikesMoney* and *DislikesMoney*). Based on existing literature (e.g., Swani et al., 2013; Sweeney et al., 2014), we assume on the one hand that customers, who generate a greater number of high-quality social engagement, indicated through a higher number of received likes in the money forum, also have higher customer profitability. On the other hand, we derive that customers with less qualitative social engagement, indicated in form of a higher number of received dislikes, have lower customer profitability (e.g., Moldovan and Goldenberg, 2004). Therefore, we propose the following hypotheses:

H5: A higher number of received likes on money forum posts positively relates to higher revenues.

H6: A higher number of received dislikes on money forum posts negatively relates to higher revenues.

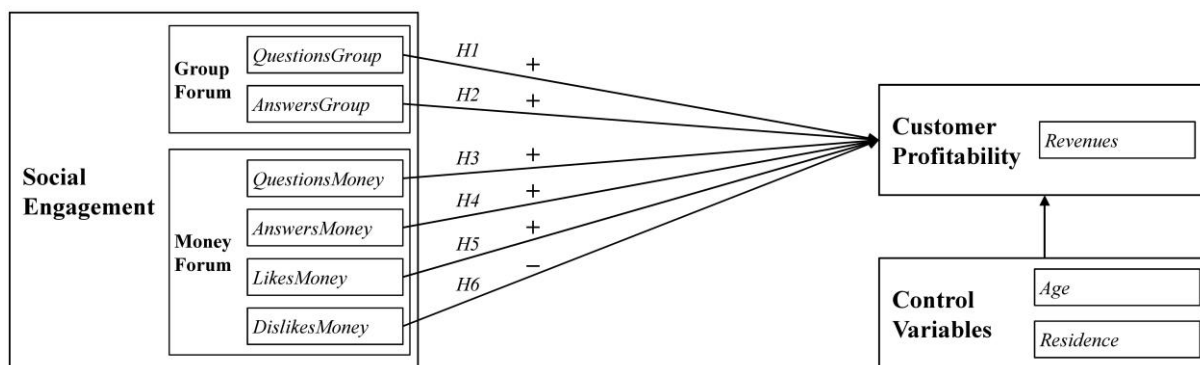


Figure 1. Research model.

To test our hypotheses and to examine the relationship between different forms of social engagement and customer profitability, we adopted a multiple linear regression model with *Revenues* as dependent variable. We used the statistical software package *Stata 13.1* for our analyses. To prevent a bias from potential omitted variables, we controlled the influence of *Age* (in years) and *Residence* (rural (0) vs. urban (1)) as control variables. Our research paper aims in examining the influence of customer’s social engagement – represented by the independent variables *QuestionsGroup*, *AnswersGroup*, *QuestionsMoney*, *AnswersMoney*, *LikesMoney* and *DislikesMoney* – on customer’s profitability, represented by the dependent variable *Revenues*. Therefore, we assume the following model:

$$Revenues = \beta_0 + \beta_1 QuestionsGroup + \beta_2 AnswersGroup + \beta_3 QuestionsMoney + \beta_4 AnswersMoney + \beta_5 LikesMoney + \beta_6 DislikesMoney + \beta_7 Age + \beta_8 Residence + \epsilon$$

To address heteroscedasticity, heteroscedasticity-robust standard errors were used in our model (Wooldridge, 2002, p. 57). In general, revenues are explained by the great influence of diverse aspects, like for example customers’ income. However, the aim of our study was not to create a prognosis model but to show the effect of customers’ social engagement on customer profitability.

## 5 Findings

### 5.1 Correlation analysis

Table 3 displays the results of the Spearman rank correlation analysis (Cohen et al., 2003).

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1) <i>Revenues</i>	1.000								
(2) <i>QuestionsGroup</i>	0.101*	1.000							
(3) <i>AnswersGroup</i>	0.093*	0.716*	1.000						
(4) <i>QuestionsMoney</i>	0.134*	0.259*	0.269*	1.000					
(5) <i>AnswersMoney</i>	0.121*	0.292*	0.329*	0.677*	1.000				
(6) <i>LikesMoney</i>	0.102*	0.279*	0.323*	0.659*	0.727*	1.000			
(7) <i>DislikesMoney</i>	0.095*	0.275*	0.303*	0.649*	0.607*	0.633*	1.000		
(8) <i>Age</i>	0.045*	-0.036*	-0.037*	-0.032*	-0.052*	-0.033*	-0.029*	1.000	
(9) <i>Residence</i>	-0.026*	0.002	0.003	-0.004	-0.001	0.002	0.003	-0.082*	1.000

\*  $p < 0.1$

Table 3. Spearman rank correlation matrix.

Almost all variables, except the control variable *Residence*, are significantly correlated. A striking fact is in particular the correlations among the independent variables. This indicates (strong) dependencies between the variables representing customers' social engagement. We additionally checked the Variance Inflation Factor (VIF) to test multicollinearity. According to Kennedy (2003), a VIF higher than 10 indicates a problem with multicollinearity. In our study, the VIF values (with a mean of 3.65) do not indicate a harmful collinearity. Considering context and aim of our study on explicitly getting insights with respect to different forms of customers' social engagement, the results can be intuitively explained. For example, the high correlations between questions and answers in both forums (cf. *QuestionsGroup* and *AnswersGroup* with a correlation coefficient of 0.716 and *QuestionsMoney* and *AnswersMoney* with a correlation coefficient of 0.677) seem naturally consistent because a customer asking many questions and therefore being very active in the online customer network in this respect may indeed also have the tendency to write more answers. The control variables *Age* (correlation coefficient of 0.045) and *Residence* (correlation coefficient of -0.026) indeed show significant correlation coefficients with respect to the independent variable *Revenues*. This highlights the necessity to include *Age* and *Residence* as control variables in our regression model. Furthermore, as Table 3 indicates, while we observe significant negative correlation coefficients for *Age* and the social engagement variables, the correlations between *Residence* and the social engagement variables are not significant.

### 5.2 Regression results

The regression results provided in Table 4 indicate a mostly positive influence of social engagement on customer profitability. Hypotheses *H1*, *H2*, and *H3* can be confirmed while hypothesis *H4* has to be rejected. A higher number of group forum questions (*H1*) and answers (*H2*) as well as a higher number of questions in the money forum (*H3*) go along with significantly higher customer revenues. Furthermore, we observe a significant but surprisingly negative coefficient for *AnswersMoney* (*H4*:  $\beta_4 = -2.27$  EUR,  $p = 0.000$ ) which indicates a striking difference between the two forums. Further, the results of the regression model support *H5* whereas *H6* is not supported. Hypothesis *H5* indicates a significant positive relationship between received likes on money forum posts (*LikesMoney*) with customer profitability (*Revenues*). In contrary, hypothesis *H6*, where a higher number of received negative feedback in the money forum (*DislikesMoney*) is, although negatively related to customer profitability, not statistically significant ( $\beta_6 = -3.07$  EUR,  $p = 0.113$ ).

Variables	Coefficient	Robust Std. Err.	P> t	Hypotheses
$\beta_0$ (Constant)	1,637.32***	82.34	0.000	
$\beta_1$ (QuestionsGroup)	33.47**	15.28	0.029	H1: supported
$\beta_2$ (AnswersGroup)	5.71**	2.74	0.037	H2: supported
$\beta_3$ (QuestionsMoney)	14.56***	4.29	0.001	H3: supported
$\beta_4$ (AnswersMoney)	-2.27***	0.65	0.000	H4: not supported
$\beta_5$ (LikesMoney)	3.03**	1.50	0.044	H5: supported
$\beta_6$ (DislikesMoney)	-3.07	1.94	0.113	H6: not supported
$\beta_7$ (Age)	9.40***	1.59	0.000	
$\beta_8$ (Residence)	-122.42***	46.32	0.008	

\* p<0.1, \*\* p<0.05, \*\*\* p<0.01

Table 4. Results of the regression model.

## 6 Discussion, Limitations and Future Research

### 6.1 Discussion of the implications for theory and practice

Our research has investigated the relationship between different forms of social engagement and customer profitability using an extensive dataset of the online customer network of a German direct banking institution. Therefore, our research contributes to theory and practice in various ways.

First, we observed a significant positive influence of most of the social engagement variables on customer profitability (*Revenues*) (cf. Table 4). Questions and answers in the group forum ( $\beta_1=+33.47$  EUR,  $p=0.029$ ;  $\beta_2=+5.71$ ,  $p=0.037$ ) as well as questions in the money forum ( $\beta_3=+14.56$  EUR,  $p=0.001$ ) indicate higher customer profitability. A noticeable exception is the significant negative influence of answers in the money forum on customer profitability ( $\beta_4=-2.27$  EUR,  $p=0.000$ ). A negative relationship between social engagement and profitability is only supported by very few studies (e.g., Algesheimer et al., 2010) and may probably be explained by active but at the same time sceptical members of the online customer network who critically discuss and comment on other customers' questions. However, the significant increase of customer profitability related to customers' social engagement activities observed on a large scale in our study is in line with most of the existing research about the influence of online customer network membership on customers' expenditures, financial risk seeking tendencies, or general purchase behaviours (Kim and Ko, 2012; Zhu et al., 2012; Goh et al., 2013; Rishika et al., 2013; Manchanda et al., 2015). For example, Rishika et al. (2013) observed a 13.5% increase in customer profitability traced back to customers' social media activities on a recently launched company's social media fan page. Beyond that, we were, contrary to existing research, able to directly link social engagement data with revenues and were not limited to manually linked, survey-based, or estimated datasets. We further examined – as one of the first – the influence of different forms of social engagement on customer profitability in more detail and observed a significant positive impact on customer profitability by asking questions in contrary to a less positive or even negative impact on profitability by giving answers. On the one hand, questions in both forums go along with a significantly higher customer profitability ( $\beta_1=+33.47$  EUR;  $\beta_3=+14.56$  EUR). Answers, on the other hand, go along with a significant but lower increase in profitability in the group forum ( $\beta_2=+5.71$  EUR) or even with a significant decrease in customer profitability in the money forum ( $\beta_4=-2.27$  EUR). Obviously, a distinction between different types of social engagement is necessary. Regarding practical implications, our findings reveal the impact on profitability by customers' social engagement. Based on our findings, we generally recommend practitioners therefore to focus on encouraging customers to actively participate in the company's online customer network. Since online customer networks are intended to deliver added value for the customers, we further encourage practitioners to provide the opportunity for customers to ask questions. Indeed, in the investigated online customer network the relevance of questions can be exemplary seen in the

observed response frequency with up to seven answers per question. By formulating and replying, customers are animated to actively deal with the topic on hand, presumably with the side effect to steer attention to corresponding products or services of the company. This in turn can have a positive impact on the disposition to buy further products and services. Customers' social engagement in form of asking and answering product related questions may further help companies to cut down costs for otherwise necessary customer information services, like customer call centres. With this knowledge in mind, practitioners are additionally able to optimize their online participation reward programs to focus on more promising forms of social engagement and encourage corresponding activities of customers in online customer networks. The institution under investigation of our study recently started a corresponding reward program and is now, based on our research, able to abandon its equally treatment of customers' social engagement activities to focus on more relevant ones, like for example asking and answering questions in the group forum. This helps the institution to spend marketing activities aiming at the enhancement of social engagement activities more wisely and targeted. Beside higher profitability, customers with a high social engagement are also regarded to have a stronger influence on other customers' purchase decisions compared to customers with low social engagement (Algesheimer and von Wangenheim, 2006; Libai et al., 2013). Instead of generally rewarding customers for their social engagement without distinguishing between different forms of social engagement, companies should therefore in contrary focus on social engagement activities with the most positive influence on customer profitability.

Second, we observed a significant positive relationship between received positive feedback regarding customer's social engagement (*LikesMoney*) and his/her profitability (*Revenues*) ( $\beta_5=+3.03$  EUR,  $p=0.044$ ). In contrast, we found a, however not significant, negative relationship between received negative feedback (*DislikesMoney*) and profitability (*Revenues*) ( $\beta_6=-3.07$  EUR,  $p=0.113$ ) (cf. Table 4). Although there exists little research about the impact of fellow customers' feedback in form of likes or dislikes on customer profitability in the context of online customer networks, studies generally investigated the reasons why customers give positive or negative feedback on social media content (e.g., Swani et al., 2013; Zhu et al., 2013; Cheng et al., 2014) and how customers can be encouraged to favourable online behaviour in the context of advertising effectiveness (e.g., Lee and Hong, 2016). In general, customers are interested in informative, entertaining as well as emotional forum posts and are willing to reward the fulfilment of their requirements with approval, for example in form of liking a certain post (Berger and Milkman, 2012; Swani et al., 2013; Lee and Hong, 2016). The opposite applies for uninteresting, unnecessary, or rude forum posts which convey the impression of wasted time and are prone to be punished by the customers by disliking a post (e.g., Cheng et al., 2014). The observed social engagement variables *LikesMoney* and *DislikesMoney* therefore can give insights about the quality of the content of a specific customer's posts. We advise practitioners to focus on customers who receive many likes, directly encourage their posting behaviour, and reward their high quality contributions in order to higher their customer profitability but also to enhance as a side effect customers' social engagement activities in the online customer network and therefore profitability as a whole. Customers in turn will experience self-assurance through the positive response in form of likes and are thus assumable even more closely tied to the online customer network.

Finally, regardless of the place of residence, customers' age in the online customer network of the German direct banking institution negatively correlates with customers' social engagement activities (cf. Table 3). Only a minority of 16% of all observed customers are younger than 30 years (cf. Table 1). However, our analysis shows that the younger a customer, the higher is his/her social engagement. This indicates that with increasing age the social engagement activity decreases. This age distribution reflects the age distribution of Internet users in general (e.g., comScore, 2014) and social media users in particular (e.g., Duggan and Brenner, 2013; Duggan et al., 2015). Nevertheless, although young customers are not the most wealthy age group (Deutsche Bundesbank, 2016), companies should focus on encouraging social engagement of young customers in order to revive the online customer network with more social engagement and bind promising customers for future revenues (e.g., Larivière and Van den Poel, 2005; Perrin, 2015). Additionally, we observed that a rural place of residence (0) goes along with a

significantly higher customer profitability compared to an urban one (1) (cf. Table 4). However, due to the innovative nature of both the online customer network and the online banking institution itself, a higher profitability of customers from the urban region may have been expected (e.g., Eurostat, 2013). We propose, the direct banking institution should on the one hand focus on encouraging customers outside of the big cities to participate more in the online customer network, for instance by linking the pricing for financial products (e.g., free credit card fee) with the individual level of social engagement and on the other hand intensify marketing activities in order to increase the degree of brand awareness among urban customers in general. The online customer network acts as the main differentiator towards rival traditional banking institution. Therefore, a real risk of losing a unique selling proposition exists for the banking institution under investigation when missing the chance to encourage more customers to actively participate in the online customer network in the long run and become thereby strong brand advocates (e.g., Constantinides and Fountain, 2008; Zhang et al., 2015).

## 6.2 Limitations and future research directions

Although we were able to provide in-depth insights about the relationship between different forms of customers' social engagement and customer profitability, we want to point out limitations of our research and provide possible starting points for future research.

First, since we merely investigated a single online customer network, future research should aim at including online customer networks of other companies, like for example the *SAP Community Network* ([go.sap.com/community.html](http://go.sap.com/community.html)), *Lego Lugnet* ([www.lugnet.com](http://www.lugnet.com)), or *My Starbucks Idea* ([mystarbucksidea.force.com](http://mystarbucksidea.force.com)) (e.g., Hong, 2015). Although we analysed a unique dataset of an online customer network in connection with extensive social engagement and financial transaction data, the generalizability of the observed findings may be limited. Firm-sponsored online customer networks are prone to be monothematic like the financial focus of the investigated online customer network (e.g., Muniz and O'Guinn, 2001). We further were only able to investigate data from one country (Germany) and could therefore not analyse possible country-specific results. Therefore, an extension of topics and data from several countries are additionally desirable in order to get a broader and more comprehensive picture.

Second, due to lack of available data, we could neither consider the content nor the polarity of forum posts and could not perform sentiment and text mining analysis in order to distinguish between positive and negative social engagement (Vinodhini and Chandrasekaran, 2012; Liu, 2012). Even though we were able to investigate different forms of social engagement in the online customer network of the direct banking institution, a deeper analysis of social engagement on basis of content analysis seems preferable, for example to investigate the significant and surprising negative influence of *AnswersMoney* on customer profitability in more detail. As little is known so far in general about the content-related influence of social engagement on customer profitability, we would like to encourage researchers to conduct next steps into this direction.

Third, the observed correlations between the social engagement variables and customer profitability are, although significant, not quite strong (cf. Table 3). This is due to the circumstance that customers' social engagement in online customer networks is only one among many factors influencing customer profitability. Beside social engagement there can be, for example, historical customer behaviour (e.g., existing product ownership, present monetary value, or cross-buying behaviour), intermediary variables (e.g., selling tendency or sales assortment), or general factors like gender, income, or wealth influence customer profitability (e.g., Larivière and Van den Poel, 2005). The contribution of our research paper is first and foremost to provide an in-depth analysis of customer profitability in the context of online customer networks with specific focus on different forms of social engagement. Since the aim of our research was not to provide an overall forecasting model for profitability, the simplified empirical model seems appropriate for our context and may serve as a sound basis for future works.

Finally, we analysed an extensive dataset about customers' sales, however neglecting thereby the costs when considering customer profitability. Due to the dataset available we were only able to focus on credit card revenues as customer profitability, although there exists of course a broader perspective on

customer profitability. In order to get a more comprehensive view about customers' profitability, we propose to include more detailed information about sales and costs in future research. Further, regarding the time period under investigation, an expansion of the observed time frame is desirable.

## 7 Conclusion

In the digital age, social engagement in online customer networks is widely seen as a primary driver of growth in sales and profit (Brodie et al., 2013; Beckers et al., 2016). Companies therefore try to stimulate customers who participate in online customer networks to enhance existing social engagement activities in order to build a sustainable competitive advantage (van Doorn et al., 2010; Brodie et al., 2013; Verhagen et al., 2015). While the positive influence of social engagement on purchase behaviour, value co-creation, or customer loyalty is widely acknowledged in literature (e.g., Williams and Cothrel, 2000; Romero and Molina, 2011; Dwivedi, 2015), there exists little research about the influence of different forms of social engagement on customer profitability. Thus, the aim of our research paper is to provide novel insights into the relationship between different forms of social engagement and customer profitability based on an extensive dataset of the online customer network of a German direct banking institution. The dataset comprises all of the institution's customers' social engagement activities and revenues generated by credit card. In order to test our hypotheses regarding the positive influence of social engagement on customer profitability, we applied a multiple linear regression model with *Age* and *Residence* as demographic control variables. Based on our analysis, we observed several interesting findings: First, we found a mostly significant positive influence of social engagement on customer profitability. By in-depth analysing different forms of social engagement, we observed further a significant higher influence of questions compared to answers. Second, by analysing received feedback on written posts in the money forum, we found that positive feedback on money forum posts in form of likes go along with higher customer profitability in contrary to negative feedback in form of dislikes. By investigating different forms of social engagement, we considerable extend existing literature and broaden the knowledge about social engagement in online customer networks. Further, our findings support practitioners in the successful management of online customer networks and increase of future customer profitability by focusing on valuable customers in the online customer network. We hope that our research stimulates further discussion and research about the relationship between social engagement and customer profitability in online customer networks.

## References

- Adjei, M. T., S. M. Noble and C. H. Noble (2010). "The influence of C2C communications in online brand communities on customer purchase behavior" *Journal of the Academy of Marketing Science* 38 (5), 634–653.
- Algesheimer, R., S. Borle, U. M. Dholakia and S. S. Singh (2010). "The Impact of Customer Community Participation on Customer Behaviors: An Empirical Investigation" *Marketing Science* 29 (4), 756–769.
- Algesheimer, R., U. M. Dholakia and A. Herrmann (2005). "The Social Influence of Brand Community: Evidence from European Car Clubs" *Journal of Marketing* 69 (3), 19–34.
- Algesheimer, R. and F. von Wangenheim (2006). "A Network Based Approach to Customer Equity Management" *Journal of Relationship Marketing* 5 (1), 39–57.
- Bagozzi, R. P. and U. M. Dholakia (2002). "Intentional Social Action in Virtual Communities" *Journal of Interactive Marketing* 16 (2), 2–21.
- Bagozzi, R. P. and U. M. Dholakia (2006). "Antecedents and purchase consequences of customer participation in small group brand communities" *International Journal of Research in Marketing* 23 (1), 45–61.

- Barry, C., R. Markey, E. Almquist and C. Brahm (2011). *Putting social media to work*. URL: [http://www.bain.com/Images/BAIN\\_BRIEF\\_Putting\\_social\\_media\\_to\\_work.pdf](http://www.bain.com/Images/BAIN_BRIEF_Putting_social_media_to_work.pdf) (visited on 12/03/2016).
- Beckers, S. F., J. van Doorn and P. C. Verhoef (2016). “Economic outcomes of customer engagement. Emerging findings, contemporary theoretical perspectives and future challenges”. In R. J. Brodie, L. D. Hollebeek and J. Conduit (eds.) *Customer Engagement: Contemporary issues and challenges*, pp. 21–52. London, UK: Routledge.
- Berger, J. and K. L. Milkman (2012). “What Makes Online Content Viral?” *Journal of Marketing Research* 49 (2), 192–205.
- Binder, C. and D. M. Hanssens (2015). *Why Strong Customer Relationships Trump Powerful Brands*. URL: <https://hbr.org/2015/04/why-strong-customer-relationships-trump-powerful-brands> (visited on 12/03/2016).
- Brandtzæg, P. B., J. Heim and A. Karahasanović (2011). “Understanding the new digital divide – A typology of Internet users in Europe” *International Journal of Human-Computer Studies* 69 (3), 123–138.
- Brodie, R. J., L. D. Hollebeek, B. Juric and A. Ilic (2011). “Customer Engagement: Conceptual Domain, Fundamental Propositions, and Implications for Research” *Journal of Service Research* 14 (3), 252–271.
- Brodie, R. J., A. Ilic, B. Juric and L. Hollebeek (2013). “Consumer Engagement in a Virtual Brand Community: An Exploratory Analysis” *Journal of Business Research* 66 (1), 105–114.
- Cheng, J., C. Danescu-Niculescu-Mizil and J. Leskovec (2014). “How Community Feedback Shapes User Behavior”. In: *Proceedings of the 8th International AAAI Conference on Weblogs and Social Media (ICWSM)*, pp. 41–50.
- Cohen, J., P. Cohen, S. G. West and L. S. Aiken (2003). *Applied Multiple Regression/Correlation Analysis for the Behavioral Sciences*. 3rd Edition. Mahwah, NJ: Lawrence Erlbaum Associates.
- comScore (2014). *Internet use by age group worldwide as of November 2014*. URL: <https://www.statista.com/statistics/272365/age-distribution-of-internet-users-worldwide> (visited on 12/03/2016).
- Constantinides, E. and S. J. Fountain (2008). “Web 2.0: Conceptual foundations and marketing issues” *Journal of Direct, Data and Digital Marketing Practice* 9 (3), 231–244.
- Correa, T., A. W. Hinsley and H. G. de Zuniga (2010). “Who interacts on the Web?: The intersection of users’ personality and social media use” *Computers in Human Behavior* 26 (2010), 247–253.
- Dessart, L., C. Veloutsou and A. Morgan-Thomas (2015). “Consumer engagement in online brand communities: a social media perspective” *Journal of Product & Brand Management* 24 (1), 28–42.
- Dessart, L., C. Veloutsou and A. Morgan-Thomas (2016). “Capturing consumer engagement: duality, dimensionality and measurement” *Journal of Marketing Management* 32 (5-6), 399–426.
- Deutsche Bundesbank (2016). “Household wealth and finances in Germany: results of the 2014 survey” *Monthly Report* (March 2016), 57–82.
- Dholakia, N. and A. F. Firat (2006). “Global business beyond modernity” *Critical Perspectives on International Business* 2 (2), 147–162.
- Dholakia, U. M., R. P. Bagozzi and L. K. Pearo (2004). “A social influence model of consumer participation in network-and small-group-based virtual communities” *International Journal of Research in Marketing* 21 (3), 241–263.
- Dholakia, U. M., V. Blazevic, C. Wiertz and R. Algesheimer (2009). “Communal Service Delivery. How Customers Benefit From Participation in Firm-Hosted Virtual P3 Communities” *Journal of Service Research* 12 (2), 208–226.
- Di Gangi, P. M., M. M. Wasko and R. E. Hooker (2010). “Getting Customers' Ideas to Work for You: Learning from Dell how to Succeed with Online User Innovation Communities” *MIS Quarterly Executive* 9 (4), 213–228.
- Duggan, M. and J. Brenner (2013). *The Demographics of Social Media Users – 2012*. URL: <http://pewinternet.org/Reports/2013/Social-media-users.aspx> (visited on 12/03/2016).

- Duggan, M., N. B. Ellison, C. Lampe, A. Lenhart, M. Madden, L. Rainie and A. Smith (2015). *Social Media Update 2014. While Facebook remains the most popular site, other platforms see higher rates of growth*. URL: <http://www.pewinternet.org/2015/01/09/social-media-update-2014> (visited on 12/03/2016).
- Dwivedi, A. (2015). “A higher-order model of consumer brand engagement and its impact on loyalty intentions” *Journal of Retailing and Consumer Services* 24 (1), 100–109.
- eMarketer (2016). *Number of social network users worldwide from 2010 to 2020*. URL: <http://www.statista.com/statistics/278414/number-of-worldwide-social-network-users> (visited on 11/14/2016).
- Erat, P., K. C. Desouza, A. Schäfer-Jugel and M. Kurzawa (2006). “Business customer communities and knowledge sharing: exploratory study of critical issues” *European Journal of Information Systems* 15 (5), 511–524.
- Eurostat (2013). *Rural development statistics by urban-rural typology*. URL: [http://ec.europa.eu/eurostat/statistics-explained/index.php/Rural\\_development\\_statistics\\_by\\_urban-rural\\_typology](http://ec.europa.eu/eurostat/statistics-explained/index.php/Rural_development_statistics_by_urban-rural_typology) (visited on 12/03/2016).
- Füller, J., K. Matzler and M. Hoppe (2008). “Brand Community Members as a Source of Innovation” *Journal of Product Innovation Management* 25 (6), 608–619.
- Garnefeld, I., A. Iseke and A. Krebs (2012). “Explicit Incentives in Online Communities: Boon or Bane?” *International Journal of Electronic Commerce* 17 (1), 11–37.
- Goh, K.-Y., C.-S. Heng and Z. Lin (2013). “Social Media Brand Community and Consumer Behavior: Quantifying the Relative Impact of User- and Marketer-Generated Content” *Information Systems Research* 24 (1), 88–107.
- Gummerus, J., V. Liljander, E. Weman and M. Pihlström (2012). “Customer engagement in a Facebook brand community” *Management Research Review* 35 (9), 857–877.
- Hajli, M. N. (2014). “The role of social support on relationship quality and social commerce” *Technological Forecasting & Social Change* 87 (1), 17–27.
- Hollebeek, L. D., M. S. Glynn and R. J. Brodie (2014). “Consumer brand engagement in social media: Conceptualization, scale development and validation” *Journal of Interactive Marketing* 28 (2), 149–165.
- Hong, P. (2015). *10 Exceptional Examples Of Brand Communities*. URL: <http://www.linkdex.com/en-us/inked/10-exceptional-examples-of-brand-communities> (visited on 12/03/2016).
- Hughes, D. E. and M. Ahearne (2010). “Energizing the Reseller’s Sales Force: The Power of Brand Identification” *Journal of Marketing* 74 (4), 81–96.
- IDG Enterprise (2016). *Content Customization Comes to the Fore. In the age of the empowered customer, old marketing rules no longer apply*. URL: <http://www.idgenterprise.com/resource/research/ce-2016-customer-engagement-sample-slides> (visited on 12/03/2016).
- Internet Live Stats (2016). *Internet users in the world*. URL: <http://www.internetlivestats.com/internet-users> (visited on 12/03/2016).
- Jaakkola, E. and M. Alexander (2014). “The Role of Customer Engagement Behavior in Value Co-Creation: A Service System Perspective” *Journal of Service Research* 17 (3), 247–261.
- Kaplan, A. M. and M. Haenlein (2010). “Users of the world, unite! The challenges and opportunities of Social Media” *Business Horizons* 53 (1), 59–68.
- Karjaluoto, H., J. Munnukka and S. Tiensuu (2015). “The Effects of Brand Engagement in Social Media on Share of Wallet”. In: *Proceedings of the 28th Bled eConference*.
- Kennedy, P. (2003). *A Guide to Econometrics*. 5th Edition. Cambridge, MA: MIT Press.
- Kim, A. J. and E. Ko (2012). “Do social media marketing activities enhance customer equity? An empirical study of luxury fashion brand” *Journal of Business Research* 65 (10), 1480–1486.
- Klier, J., M. Klier and G. Lindner (2016). “Social Engagement and Customer Profitability in Online Customer Networks”. In: *Proceedings of the 24th European Conference on Information Systems (ECIS)*.



- Kumar, A., R. Bezawada, R. Rishika, R. Janakiraman and P. K. Kannan (2016). "From Social to Sale: The Effects of Firm-Generated Content in Social Media on Customer Behavior" *Journal of Marketing* 80 (1), 7–25.
- Kumar, V., L. Aksoy, B. Donkers, R. Venkatesan, T. Wiesel and S. Tillmanns (2010). "Undervalued or Overvalued Customers: Capturing Total Customer Engagement Value" *Journal of Service Research* 13 (3), 297–310.
- Kumar, V., J. A. Petersen and R. P. Leone (2007). "How valuable is word of mouth?" *Harvard Business Review* 85 (10), 139–148.
- Larivière, B. and D. Van den Poel (2005). "Predicting customer retention and profitability by using random forests and regression forests techniques" *Expert Systems with Applications* 29 (2), 472–484.
- Lee, J. and I. B. Hong (2016). "Predicting positive user responses to social media advertising: The roles of emotional appeal, informativeness, and creativity" *International Journal of Information Management* 36 (3), 360–373.
- Libai, B., E. Muller and R. Peres (2013). "Decomposing the Value of Word-of-Mouth Seeding Programs: Accelerations Versus Expansion" *Journal of Marketing Research* 50 (2), 161–176.
- Liu, B. (2012). "Sentiment Analysis and Opinion Mining" *Synthesis Lectures on Human Language Technologies* 5 (1), 1–167.
- Manchanda, P., G. Packard and A. Pattabhiramaiah (2015). "Social Dollars: The Economic Impact of Customer Participation in a Firm-Sponsored Online Customer Community" *Marketing Science* 34 (3), 367–387.
- Martins, C. S. and L. Patrício (2013). "Understanding participation in company social networks" *Journal of Service Management* 24 (5), 567–587.
- Matzler, K., E. Pichler, J. Füller and T. A. Mooradian (2011). "Personality, person-brand fit, and brand community: An investigation of individuals, brands, and brand communities" *Journal of Marketing Management* 27 (9-10), 874–890.
- McAlexander, J. H., J. W. Schouten and H. F. Koenig (2002). "Building Brand Community" *Journal of Marketing* 66 (1), 38–54.
- Moldovan, S. and J. Goldenberg (2004). "Cellular automata modeling of resistance to innovations: Effects and solutions" *Technological Forecasting & Social Change* 71 (5), 425–442.
- Mulhern, F. J. (1999). "Customer profitability analysis. Measurement, concentration, and research directions" *Journal of Interactive Marketing* 13 (1), 25–40.
- Muniz, A. M. Jr. and T. C. O'Guinn (2001). "Brand Community" *Journal of Consumer Research* 27 (4), 412–432.
- Nambisan, S. and R. A. Baron (2010). "Different Roles, Different Strokes: Organizing Virtual Customer Environments to Promote Two Types of Customer Contributions" *Organization Science* 21 (2), 554–572.
- Perrin, A. (2015). *Social Media Usage: 2005-2015*. URL: <http://www.pewinternet.org/2015/10/08/social-networking-usage-2005-2015> (visited on 12/03/2016).
- Porter, C. E. and N. Donthu (2008). "Cultivating Trust and Harvesting Value in Virtual Communities" *Management Science* 54 (1), 113–128.
- Realo, A., A. Siibak, V. Kalmus and others (2011). "Motives for Internet use and their relationships with personality traits and socio-demographic factors" *Trames* 15 (4), 385–403.
- Rishika, R., A. Kumar, R. Janakiraman and R. Bezawada (2013). "The effect of customers' social media participation on customer visit frequency and profitability: an empirical investigation" *Information Systems Research* 24 (1), 108–127.
- Roberts, N. and M. Dinger (2016). "The Impact of Virtual Customer Community Interactivity on Organizational Innovation: An Absorptive Capacity Perspective" *IEEE Transactions on Professional Communication* 59 (2), 110–125.
- Romero, D. and A. Molina (2011). "Collaborative Networked Organisations and Customer Communities: Value Co-Creation and Co-Innovation in the Networking Era" *Production Planning & Control* 22 (4), 447–472.

- Ross, C., E. S. Orr, M. Sisic, J. M. Arseneault, M. G. Simmering and R. R. Orr (2009). "Personality and motivations associated with Facebook use" *Computers in Human Behavior* 25 (2009), 578–586.
- Sashi, C. M. (2012). "Customer engagement, buyer-seller relationships, and social media" *Management Decision* 50 (2), 253–272.
- Schau, H. J., A. M. Muñoz Jr and E. J. Arnould (2009). "How Brand Community Practices Create Value" *Journal of Marketing* 73 (5), 30–51.
- Singh, S. S., U. M. Dholakia and S. Borle (2015). "Does Membership in a Nominal Online Group Affect Long-Term Customer Behaviors?" *Results from a Naturalistic Field Experiment on Kiva.org* (June 13, 2015).
- Stone, M. and N. Woodcock (2013). "Social intelligence in customer engagement" *Journal of Strategic Marketing* 21 (5), 394–401.
- Swani, K., G. Milne and B. P. Brown (2013). "Spreading the word through likes on Facebook. Evaluating the message strategy effectiveness of Fortune 500 companies" *Journal of Research in Interactive Marketing* 7 (4), 269–294.
- Sweeney, J., G. Soutar and T. Mazzarol (2014). "Factors enhancing word-of-mouth influence: positive and negative service-related messages" *European Journal of Marketing* 48 (1/2), 336–359.
- van Doorn, J., K. N. Lemon, V. Mittal, S. Nass, D. Pick, P. Pirner and P. C. Verhoef (2010). "Customer Engagement Behavior: Theoretical Foundations and Research Directions" *Journal of Service Research* 13 (3), 253–266.
- Verhagen, T., E. Swen, F. Feldberg and J. Merikivi (2015). "Benefitting from virtual customer environments: An empirical study of customer engagement" *Computers in Human Behavior* 48 (2015), 340–357.
- Vinodhini, G. and R. M. Chandrasekaran (2012). "Sentiment Analysis and Opinion Mining: A Survey" *International Journal of Advanced Research in Computer Science and Software Engineering* 2 (6), 282–292.
- Vivek, S. D., S. E. Beatty, V. Dalela and R. M. Morgan (2014). "A Generalized Multidimensional Scale for Measuring Customer Engagement" *Journal of Marketing Theory and Practice* 22 (4), 401–420.
- Vivek, S. D., S. E. Beatty and R. M. Morgan (2012). "Customer Engagement: Exploring Customer Relationships Beyond Purchase" *Journal of Marketing Theory and Practice* 20 (2), 122–146.
- Weiss, A. M., N. H. Lurie and D. J. MacInnis (2008). "Listening to Strangers: Whose Responses Are Valuable, How Valuable Are They, and Why?" *Journal of Marketing Research* 45 (4), 425–436.
- Wiertz, C. and K. de Ruyter (2007). "Beyond the Call of Duty: Why Customers Contribute to Firm-Hosted Commercial Online Communities" *Organization Studies* 28 (3), 347–376.
- Williams, R. L. and J. Cothrel (2000). "Four Smart Ways To Run Online Communities" *Sloan Management Review* 41 (4), 81–91.
- Wirtz, J., A. den Ambtman, J. Bloemer, C. Horváth, B. Ramaseshan, J. van de Klundert, Z. Gurhan Canli and J. Kandampully (2013). "Managing brands and customer engagement in online brand communities" *Journal of Service Management* 24 (3), 223–244.
- Wooldridge, J. M. (2002). *Econometric Analysis of Cross Section and Panel Data*. Cambridge, MA: MIT Press.
- Wyner, G. A. (1996). "Customer valuation. Linking behavior and economics" *Marketing Research* 8 (2), 36–38.
- Zhang, J., R. Shabbir, C. Pitsaphol and W. Hassan (2015). "Creating Brand Equity by Leveraging Value Creation and Consumer Commitment in Online Brand Communities: A Conceptual Framework" *International Journal of Business and Management* 10 (1), 80–91.
- Zhu, H., A. Zhang, J. He, R. E. Kraut and A. Kittur (2013). "Effects of Peer Feedback on Contribution: A Field Experiment in Wikipedia". In: *Proceedings of the ACM SIGCHI Conference on Human Factors in Computing Systems*, pp. 2253–2262.
- Zhu, R. J., U. M. Dholakia, X. J. Chen and R. Algesheimer (2012). "Does Online Community Participation Foster Risky Financial Behavior?" *Journal of Marketing Research* 49 (3), 394–407.

Zywica, J. and J. Danowski (2008). “The Faces of Facebookers: Investigating Social Enhancement and Social Compensation Hypotheses; Predicting Facebook™ and Offline Popularity from Sociability and Self-Esteem, and Mapping the Meanings of Popularity with Semantic Networks” *Journal of Computer-Mediated Communication* 14 (1), 1–34.