

Book of Abstracts
of the Cumulative Dissertation in Service Management

“Digitalization of Customer Services in Health Care”

submitted by

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for the attainment of the
Doctor rerum politicarum
(Dr. rer. pol.)

According to §17 (1) 7 of the university-wide doctoral degree regulations of the
Catholic University Eichstaett-Ingolstadt and within the scope of the
doctoral procedures of the Faculty of Business Administration

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Date of the Disputation: 05.12.2019

Ingolstadt, December 2019

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1. Overview of Articles

This cumulative dissertation addresses the participatory behaviors of customers in online communities as well as the corresponding antecedents and outcomes. A special focus is set on participation in specialized communities for health care professionals and the outcomes of this behavior. This dissertation includes three contributions:

- 1) Beierlein, A. (2017): Customer Engagement in Online Communities – A Literature Review, in: Buettgen, M. (Ed.), Beiträge zur Dienstleistungsforschung 2016. Wiesbaden: Springer, p. 41-70.
- 2) Hogleve, J. / Beierlein, A. (2017): Digitalisierung des Kundenservices in der Healthcare Industrie – Motivationen und Auswirkungen der Kunden- und Mitarbeiter-beteiligung in B2B-P3-Online-Communities; in: M. Bruhn and K. Hadwich (eds.), Dienstleistungen 4.0, Wiesbaden: Springer, p. 511-539.
- 3) Hogleve, J. / Beierlein, A. (2019): Value Creation and Cost Reduction in Health Care – Outcomes of Online Participation by Health Care Professionals, to be submitted to the Journal of the Academy of Marketing Science (VHB-JQ3: A).

This dissertation consists of one conceptual contribution and two empirical contributions. The first paper is a literature review of preexisting research on the various types of online communities and the forms of participatory behavior found in these communities, such as engagement and participation. Hereby, a detailed analysis of the antecedents, outcomes, and possible moderator effects of engagement is presented. The second article presents the results of a qualitative study examining the antecedents and outcomes of participation in a specialized community for health care professionals – specifically, customers and employees of a major manufacturer of medical equipment. The third contribution outlines in detail the outcomes of professional customers' participation in an online health care community and also provides proof that participation decreases service support costs for professional customers. The individual contributions are briefly described below.

Customer Engagement in Online Communities

First, this article provides a detailed overview of the most commonly studied types of online communities, such as brand communities or peer-to-peer problem-solving (P3) communities. These online communities will be evaluated based on their content and purpose, key characteristics, differences, and similarities. Second, various concepts of customer involvement in online communities are defined and delineated from each other, including concepts such as customer engagement, participation, and co-creation. This article focuses on the concept of engagement because it was announced as a Tier One research priority by the Marketing Science Institute in 2014 and because research often portrays brands and organizations as the dominant objects of online engagement. The article outlines the affective, cognitive, and behavioral dimensions of customer engagement, including relevant sub-dimensions. The antecedents of engagement are presented and clustered as its brand-related, social, and functional drivers. Our research provides relevant insights for both practitioners and researchers as we show that customer engagement in an online community has outcomes for all parties involved: the firm that provides the online community or brand and the customers themselves. Customers can only derive positive outcomes from engagement in an online community, whereas the service provider may experience both positive and negative consequences. In addition, this article specifies which types of interaction are typically linked to certain types of online communities. For instance, customer engagement is most suitable in the context of brand communities, in contrast to participation, which is primarily studied in P3 online communities. Last, this article highlights several potential research topics related to the field of online communities. Accordingly, research on participation within the special context of business-to-business (B2B) communities for professionals was found to be lacking despite numerous calls for research on this topic and an increasing number of B2B community launches by firms.

Digitalization of Customer Service in the Health Care Industry – Antecedents and Outcomes of Customer and Employee Participation in B2B P3 Online Communities (*Title in English*)

This paper presents the results of a qualitative study conducted to provide insights on the nature of health care professionals' and service provider employees' participation in specialized B2B P3 online communities as well as the antecedents and outcomes of this behavior. We conducted 31 interviews with professional customers and employees of a world leading medical equipment manufacturer about their motivation to participate, their participation itself, and their derived outcomes (1740 minutes of audio material were transcribed as 292 single-spaced pages of text). Our study offers meaningful insights for academia and practitioners likewise by adding decisive aspects of participation in the B2B context to the scope of service literature and by providing guidelines for successful community management.

First, we found that motivational factors for customer participation included the chance to receive special trainings, monetary incentives, and the prospect of developing a reputation within the community. Yet our study also revealed possible barriers to customer participation, such as complicated log-in processes or high workloads limiting the amount of time professionals have to participate in these communities. Customer participation results in numerous benefits, such as access to a fast problem-solving and knowledge database as well as customer service cost savings; the community enables customers to work more efficiently and solve problems by themselves.

Second, we identified drivers of employee participation in online communities that specialize in health care, such as goal-oriented collaboration and direct customer contact. Our results provided evidence that employees and customers have different motivations. Specifically, our findings suggest that employee participation is guided by hedonistic motives, whereas customer participation is driven by utilitarian motivations. Thus, our findings highlight a major difference between business-to-customer and business-to-business communities, which consequently paves the way for further research specific to B2B communities.

Our findings show that professional customers are not participating in B2B communities for professionals to socialize or develop relationships but rather to access information and solutions to problems. Moreover, we find that employee participation results in outcomes that may be both positive and negative, such as additional workload, which is associated with stress and may therefore serve as an obstacle to participation in a P3 online community. The negative effects of participation in these communities have hardly been taken into account by literature so far. Thus, the results of our study expand the scope of research on employee participation in P3 online communities.

We provide a holistic model of community participation by employees and customers in a professional health care context that responds to current calls for this type of research by shedding light on the views of all stakeholders, namely customers and employees. Furthermore, we provide several guidelines for successful community management while describing and considering current developments in the health care context.

Value Creation and Cost Reduction in Health Care – Outcomes of Online Participation by Health Care Professionals

This article explores the outcomes of health care professionals' participation in a vendor-hosted online community by combining prior research on online communities with qualitative and quantitative data collected in two separate studies. We first conducted 21 interviews with professional customers of a major health care equipment provider who were located in Germany and the United States, as well as with four digitalization experts with backgrounds in various industries (1134 minutes of audio material were transcribed as 250 single-spaced pages of text). The quantitative study yielded a response rate of 12.1% and contained 445 valid questionnaires from health care professionals and active members of an online community for health care professionals based in Europe, the United States, Canada, Australia, and New Zealand.

Results show that participation in online communities by professionals emerges as a dual concept, consisting of both help-seeking and help-providing behaviors. These behaviors, in turn, facilitate the creation of economic and relational value and also positively influence the perceived usefulness of the online community, resulting in higher satisfaction with the community among the participating health care professionals. We found that economic value alone is not sufficient to establish satisfaction; relational value is mandatory. That is, economic value encourages the creation of relational value, which then leads to satisfaction. This result contradicts previous research findings, which indicated economic value has a direct effect on satisfaction. This discrepancy might be due to the specific health care context, but our findings still demand further investigation and confirmation.

Customer survey data and transactional data gathered from a major medical equipment vendor hosting an online community confirmed that participation mediated by economic value decreases service support costs to professionals by reducing the number of necessary service visits by the vendor's service technicians. Most importantly, by showing how professionals decrease their service support costs and solve problems more efficiently while the vendor enjoys reduced demand

for traditional support services, we extend current participation research by proving that there are actual cost benefits for participating community members. This offers advantages for both health care professionals and the vendors providing the equipment for health care professionals. The resulting coherent model of online community participation and its corresponding benefits for health care professionals and vendors also reflects and informs current developments in the health care industry.

2. Abstracts

2.1. Customer Engagement in Online Communities

Andrea Beierlein

Abstract: This article examines the current literature on online communities and their corresponding participation behaviors. It provides a detailed overview of the different types of online communities based on their classifications (e.g., customer-initiated, firm-sponsored, or third-party managed), content, and purpose (e.g., brand communities or P3 online communities). Moreover, this article summarizes the conceptualization and operationalization of customer engagement in the context of online communities. Hereby, all three main dimensions of customer engagement (affective, cognitive, and behavioral), as well as their seven sub-dimensions, are discussed. This is followed by a delineation of related constructs, such as participation and co-production. This paper further outlines antecedents of customer engagement, clustered as brand-related, social, and functional drivers. The outcomes of engagement for the customer and the firm that provides the online community are presented as well. The paper closes with avenues of research and a set of implications for practitioners, which may be used to guide future developments in this promising area of research.

Keywords: Customer Engagement, Online Communities, Marketing, Community Engagement

Published in: Buettgen, M. (Ed.), Beiträge zur Dienstleistungsforschung 2016 (pp. 41-70).

Wiesbaden: Springer.

2.2. Digitalization of Customer Service in the Health Care Industry – Antecedents and Outcomes of Customer and Employee Participation in B2B P3 Online Communities

Jens Hogleve and Andrea Beierlein

Abstract: This article consists of an in-depth exploration of customer and employee participation in a B2B P3 online community for health care professionals. Interviews with 16 professional customers and 14 employees of a major medical equipment vendor were conducted and analyzed using GABEK® data analysis based on a rule-sensitive data network to code content. By combining previously published research with this qualitative data, the authors were able to identify motivational factors as well as barriers for customer and employee participation. The analysis revealed that customer participation is driven by utilitarian motives, whereas employee motivation is characterized by hedonic intentions. In addition, this study also presents positive and negative outcomes of participation in these specialized online communities. It was found that customers only derive positive outcomes, whereas employee participation can lead to both positive results and negative results such as higher workloads and stress. This study offers guidance for firms regarding ways they can improve community design to successfully facilitate customer and employee participation.

Keywords: Customer Participation, Employee Participation, Online Communities, Value Creation, Satisfaction, Professional Health Care

Published in: Bruhn, M. and Hadwich, K. (Eds.), *Dienstleistungen 4.0*, (pp. 511-539). Wiesbaden: Springer.

2.3. Value Creation and Cost Reduction in Health Care – Outcomes of Online Participation by Health Care Professionals

Jens Hogleve and Andrea Beierlein

Abstract: This article explores the outcomes of participation in a vendor-hosted online community by health care professionals by combining prior research on online communities with qualitative and quantitative data collected in two separate studies. Results showed that participation in online communities by professionals emerges as a dual concept, consisting of both help-seeking and help-providing behaviors. These behaviors, in turn, facilitate the creation of economic and relational value and also influence the perceived usefulness of the online community, resulting in higher satisfaction with the community among the participating health care professionals. Customer survey data and transactional data was gathered from a major medical equipment vendor hosting an online community, and this data confirmed that participation in this online community decreased service support costs to professionals by reducing the number of necessary service visits by the vendor's service technicians. The resulting coherent model of online community participation and its corresponding benefits for health care professionals and vendors reflects and informs current developments in the health care industry.

Keywords: Participation, Communities for Professionals, Service Costs, Value Creation, Satisfaction, Professional Healthcare Services

To be submitted in the Journal of Academy of Marketing Science