

ONLINE COMMUNITIES FOR CUSTOMER SUPPORT

A study of participation and its antecedents

Njål Sivertstøl

ABSTRACT

In this dissertation I study consumers' participation in online communities for customer support. Based on an extensive literature review, I identify four different ways in which consumers participate in such communities: by *help seeking*, by *help giving*, by participating in *reflective reframing*, and by conducting *reinforcing* activities. An exploratory study of two online communities for customer support enables me to suggest items for measuring the four forms of participation. I statistically test and validate the new scales and items by performing a pretest on university students and running analyses in LISREL 9.10.

From the literature review, I identify 169 different antecedents of participation in online communities. Some of the antecedents appear relatively similar, while others are more unique. Established research has found six of these antecedents significant for participation in online communities for customer support. I include these six antecedents in my further analysis. As part of the exploratory study, I search for new antecedents of participation in online communities for customer support, and I find that *anonymity* can be a potential additional antecedent. In order to test how the six established antecedents and the new antecedent *anonymity* influence participation in online communities for customer support, I conduct structural equation modeling (SEM) analyses in LISREL 9.10. These analyses show that four of the antecedents are significant, and that these antecedents influence the four forms of participation differently. Expectations about achieving *hedonic benefits* influence people to give help and to perform *reinforcing* activities. I also find that prospects to achieve *learning benefits* influence consumers to seek for help and that expectation's about earning *personal integrative benefits* influence people to give help. The most important motivational factor is expectations about *social integrative benefits*, which influence all four forms of participation.

The exploratory study suggests that companies might facilitate *social integrative benefits* and *personal integrative benefits*, and in this way indirectly stimulate participation in the community. To statistically test these findings, I run mediation checks in LISREL 9.10. I find that *personal integrative benefits* fully mediate the relation between *personal integrative benefits facilitators* and *help giving*. This finding indicates that the company can indirectly stimulate people to give help by facilitating *personal integrative benefits*. The company can do so by letting community members give kudos to one another and mark each other's solutions as correct, by providing active community members with gradually more prestigious titles, and by writing posts thanking the consumers' for their contributions. I also find that *social integrative benefits* fully mediate the relationships between *friendship with company employees* and all four forms of participation. Accordingly, companies can stimulate all four forms of participation indirectly by building friendships with the consumers in the support community.

ACKNOWLEDGEMENTS

This dissertation is the result of the contributions from many people who have helped and encouraged me throughout the process. First of all I express my deepest gratitude to my supervisor Ingeborg Kleppe. She safely guided me through my master thesis, encouraged me to go for a PhD, and literally sent me around the world. Her creativity, enthusiasm, knowledge, and tireless guidance have been invaluable for writing this dissertation. I thank Herbjørn Nysveen for his patience, for sharing his rich insights on co-creation, and for continuously providing me with great ideas on how to improve my work. I am thankful to Per Egil Pedersen, who helped me when I needed it the most, and introduced me to companies crucial for my research. I also thank Sven Haugland and Einar Breivik for useful and constructive feedback, and the committee for showing me how to further develop this dissertation. The administrative staff at SOL helped me solve problems where I thought no solution was possible. The friendships, smiles, help, and moral support that I have received from my fellow PhD students have made this journey a joyful experience that I will always remember. In particular, I thank my good friend Seidali who has patiently and selflessly helped me with some of the parts I found the most challenging. I want to thank the company representatives and the consumers on the two online communities for their important contributions to my research. I am thankful to Dagfinn Myhre, Jarle Hildrum, Hege Haugen, and the rest of my colleagues who have let me dedicate time and focus to my PhD work when there are many other tasks that need my attention. I am grateful to my family, especially my grandma Nanna, my brother Hr.Arne, my mom Liv, and my dad Ove, who have always been there for me. Finally, I dedicate this dissertation to my dear wife and best friend, Sonja.

Oslo/Bergen/Fiskå, March 2015, Njål Sivertstøl

TABLE OF CONTENTS

1.0 INTRODUCTION.....	9
1.1 Purpose and research questions	10
1.1.1 Research question 1	10
1.1.2 Research question 2.....	11
1.1.3 Research question 3.....	12
1.1.4 Research question 4.....	13
1.2 Contributions	14
1.2.1 Theoretical contributions.....	14
1.2.2 Methodological contributions	14
1.2.3 Managerial contributions.....	15
1.3 Outline	16
2.0 THEORY, HYPOTHESES, AND PRELIMINARY RESEARCH MODEL	17
2.1 Literature search	17
2.2 Antecedents of participation.....	20
2.2.1 Hedonic benefits.....	24
2.2.2 Learning benefits.....	26
2.2.3 Personal integrative benefits	27
2.2.4 Social integrative benefits	30
2.2.5 Attitude towards the host firm.....	33
2.2.6 Sense of partnership with the company.....	33
2.3 Participation	35
2.3.1 Help seeking.....	38
2.3.2 Help giving.....	39
2.3.3 Reflective reframing.....	40
2.3.4 Reinforcing.....	41
2.4 Facilitators of the antecedents	43
2.5 Preliminary research model.....	46
3.0 EXPLORATORY STUDY, ADDITIONAL HYPOTHESES, AND EXTENDED RESEARCH MODEL.....	48
3.1 Method	48
3.1.1 The cases	48
3.1.2 Research ethics	50

3.1.3 Collecting online archival data.....	51
3.1.4 Interviews	53
3.1.5 Data analysis – Coding.....	55
3.1.6 Data analysis – Identifying overarching themes	56
3.2 Analysis and additional hypotheses	57
3.2.1 Anonymity as an additional antecedent of participation.....	57
3.2.2 Facilitators for personal integrative benefits	62
3.2.3 Friendship with company employees facilitate social integrative benefits.....	68
3.3 The extended research model.....	74
4.0 MAIN STUDY – METHOD.....	76
4.1 Setting, sample, and data collection	76
4.1.1 Pretest.....	76
4.1.2 Main survey.....	77
4.2 Measures.....	78
4.2.1 Measures based on established research	79
4.2.2 Additional measures	79
4.3 Confirmatory Factor Analyses	80
4.3.1 Model fit.....	84
4.3.2 Convergent validity	85
4.3.3 Discriminant validity.....	86
4.4 Common method bias.....	87
5.0 MAIN STUDY – FINDINGS	90
5.1 Hypotheses 1 – 7, and 8a and 9a	91
5.2 Hypotheses 8b and 9b	92
6.0 DISCUSSION AND IMPLICATIONS	94
6.1 Discussion and theoretical implications	97
6.2 Managerial implications.....	104
6.3 Additional issues need to be addressed	107
7.0 LIMITATIONS, FURTHER RESEARCH, AND REFLECTION	109
7.1 Limitations	109
7.2 Further research.....	111
7.3 Reflection	114

REFERENCES.....	115
APPENDICES.....	130
Appendix 1: Antecedents of participation in online communities.....	131
Appendix 2: Interview guide for forum managers.....	137
Appendix 3: Interview guide helpers.....	139
Appendix 4: Interview guide for moderators.....	140
Appendix 5: Interview guide for consumers.....	141
Appendix 6: List of codes applied in the analysis of the data of the exploratory study.....	143
Appendix 7: Community description pretest.....	144
Appendix 8: Print screen of the survey announcement in the forum.....	145
Appendix 9: Print screen of the survey discussion thread in the forum.....	146

TABLES

TABLE 1: Hedonic benefits.....	24
TABLE 2: Learning benefits.....	26
TABLE 3: Personal integrative benefits.....	27
TABLE 4: Social integrative benefits.....	30
TABLE 5: Sense of partnership with the company.....	33
TABLE 6: Participation in online communities.....	38
TABLE 7: Variables influencing the antecedents of participation.....	45
TABLE 8: Online archival data company A.....	52
TABLE 9: Online archival data company B.....	52
TABLE 10: Interviews company A.....	54
TABLE 11: Interviews company B.....	54
TABLE 12: CFA and validity checks new scales, based on pretest data.....	81
TABLE 13: CFA and validity checks measurement model, based on forum survey.....	81
TABLE 14: Measurement model PHI matrix, based on forum survey.....	83
TABLE 15: Results of SEM of research model.....	91
TABLE 16: Mediation tests.....	93

Appendices

TABLE A: Antecedents of participation in online communities.....	134
TABLE B: List of codes applied in the exploratory study.....	143

FIGURES

FIGURE 1: Preliminary research model.....	46
FIGURE 2: Anonymity influences participation.....	62
FIGURE 3: Personal integrative benefits mediate the effects of facilitators for personal integrative benefits on participation.....	68
FIGURE 4: Social integrative benefits mediate the effect of friendship with company employees on participation.....	73
FIGURE 5: Extended research model.....	74
FIGURE 6: Preliminary research model, Extended research model, and findings.....	96

1.0 INTRODUCTION

Involving consumers in online communities can provide significant benefits for companies, such as increased brand loyalty and brand usage (e.g., Casalao et al. 2008), enable companies to better understand the needs of the consumers (e.g., Füller et al. 2008), make it easier for companies to build relationships with the customers (e.g., Füller et al. 2006), improve brand image and word-of-mouth (e.g., Woisetschläger et al. 2008), and be an efficient way for companies to receive customer feedback (e.g., Garnfeld et al. 2012). One type of online community is an *online community for customer support* (e.g., Nambisan and Baron 2010). These communities, which are set up and managed by companies, provide arenas where consumers help each other solve problems. It is important to understand this particular type of community for several reasons, which prompted the focus of my dissertation. Online communities for customer support represent a new form of customer support that can complement and replace traditional customer support: for customers, it is a democratic, flexible, and often better way to receive help, and for the company it can result in a reduced number of inquiries to the call-center (e.g., BestBuy: lithium.com), reduced support costs (e.g., Skype: lithium.com), increased customer retention (e.g., Barclaycards: lithium.com), and even increased sales (e.g., Virgin Atlantic: lithium.com). Hence, it is important to understand how consumers participate in such communities, what motivates them to participate, and what companies can do to encourage participation. However, researchers have paid little academic attention to this type of online community (Nambisan and Baron 2007). In this dissertation, I expand established theory by examining participation, and antecedents of participation, as well as exploring what companies can do to encourage consumers to participate, in online communities for customer support.

1.1 Purpose and research questions

The purpose of this dissertation is fourfold. First, I want to identify and test antecedents of participation in online communities for customer support. Second, I seek to establish how companies can facilitate these antecedents and thereby indirectly stimulate participation. Third, I examine forms of consumer participation. Fourth, I investigate how the different antecedents are related to different forms of participation.

1.1.1 Research question 1

Based on an elaborate literature review, I identify 169 antecedents of participation in online communities. Of these studies, however, only Nambisan and Baron (2007, 2009, 2010) quantitatively test antecedents of participation in an online community for customer support. They (ibid.) unveil six different antecedents. Thus, focusing on identifying and statistically testing antecedents of participation in online communities for customer support opens up possibilities for making novel contributions and closing a gap in the literature.

It could be that some of the antecedents of participation in other types of online communities apply to communities for customer support. However, research (e.g., Muhdi and Boutellier 2011, Xu et al. 2012, Sung et al. 2010) shows that consumers participating in one type of community context might be motivated differently than people participating in another type of community context. This discrepancy implies that generalizing findings from one type of community to another might lead to wrong conclusions, an argument that is supported by Nambisan and Baron (2009, 2010). Hence, rather than picking antecedents from other contexts and importing them to my study context, I conduct an exploratory study where I examine online communities for customer support in depth to discover antecedents that

expand established research. I then test these antecedents alongside the antecedents identified by Nambisan and Baron (2007, 2009, 2010). This goal leads to research question 1.

Research question 1: What are the antecedents of participation in online communities for customer support?

1.1.2 Research question 2

In addition to identify and test antecedents of participation in online communities for customer support, I expand Nambisan and Baron's (2007, 2009, 2010) research even further. Considering the potential benefits such communities have for companies, it is crucial to understand not only why people participate, but also what companies can do to encourage people to participate. Previous research (e.g., Kozinets 1999, Muniz and O'Guinn 2001, McAlexander et al. 2002) suggests that consumers and companies participate on equal terms in consumer communities. This finding implies that, when setting up and managing the community, companies should carefully balance different tools and mechanisms that motivate the consumers to participate without the company's representatives taking too much control over the community.

Research (e.g., Nambisan and Baron 2007) identifies different antecedents that influence participation. But the nature of these antecedents might make them difficult for companies to control or use as strategic tools to influence participation. For example, Nambisan and Baron (2007) find that people's expectations about gaining certain benefits are antecedents of participation; however, companies cannot control and direct the expectations (e.g., Nambisan and Baron 2007) people have. What companies can do is to find ways to make it easier for people to achieve these benefits (antecedents), and hence raise people's expectations about the

benefits. As expectations about certain benefits are positively related to participation (e.g., Nambisan and Baron 2007), companies can in this way indirectly stimulate participation through the antecedents. My literature review identifies 37 different variables influencing the antecedents of participation. However, the challenge for a company is that these variables tend to be outside the company's control, such as consumers' needs (e.g., need for activity: Chang et al. 2013), consumers' experiences, evaluations, or perceptions (e.g., perceived similarity: Casalao et al. 2013), or consumers' actions (e.g., viewing posts: Zhou et al. 2013). Hence, to extend established literature, I want to identify and test ways in which companies can facilitate the antecedents of participation and thereby indirectly stimulate participation, leading to research question 2.

Research question 2: How can companies facilitate the antecedents of participation in online communities for customer support?

1.1.3 Research question 3

In order to fully understand online communities for customer support, I want to study how consumers actually participate. The vast majority (36) of the studies I review perceive participation as one general dependent variable, while some (14) test different forms of participation. However, the researchers that test different forms of participation tend to focus on a couple of different forms of participation rather than looking at several different forms of participation. For example, Zhao et al. (2013) test intention to consume information and intention to provide information as dependent variables, Koh et al. (2007) test viewing activity and posting activity as dependent variables, while Chang et al. (2013) test intention to receive information and intention to send information as dependent variables. Furthermore, only one of these studies (Nambisan and Baron 2010) was conducted within the context of

online support communities. That study (ibid.) tests relations between different antecedents and the two dependent variables of contribution to company and contribution to community. Thus, in my quest to contribute to research by opening up the dependent variable participation, I explore and test different forms of consumer participation. This leads to research question 3.

Research question 3: What are the forms of participation in online communities for customer support?

1.1.4 Research question 4

Are different antecedents related to different forms of participation? Research on online communities suggests that people are motivated differently based on the form of community activities they are involved in. For example, people who are seeking knowledge or information are motivated differently than people who are contributing knowledge or information (e.g., Phang et al. 2009, Zhao et al. 2013, Zheng et al. 2013). However, the studies that test how different antecedents influence different forms of participation tend to test only two different forms of participation each. Hence, in order to provide a more complete picture of participation in online communities for customer support, a wider focus is needed. To close this gap in established research, I want to test how different antecedents influence a broader set of forms of participation, leading to research question 4.

Research question 4: How do the different antecedents of participation in online communities for customer support influence the different forms of participation?

1.2 Contributions

This study with all its components, including the literature review, exploratory study, and quantitative study, gives a more complete picture of participation and antecedents of participation in online communities for customer support than established research (i.e., Nambisan and Baron 2007, 2009, 2010) currently provides. In the following, I summarize the theoretical, methodological, and managerial implications of this dissertation.

1.2.1 Theoretical contributions

First, the literature review identifies, categorizes, and provides a structured overview of the antecedents of participation in online communities for customer support. The literature review also identifies and categorizes different forms of participation. Second, the exploratory study of online communities for customer support identifies additional antecedents of participation, expanding existing knowledge. Furthermore, new insights are added by including ways in which companies can facilitate antecedents and thereby indirectly stimulate participation. Finally, a structural equation modelling (SEM) analysis tests how the facilitators influence the antecedents, and how the different antecedents are related to the different forms of participation. In this way, based on established research, an exploratory study, and quantitative testing, I propose and test a comprehensive model of participation in online communities for customer support.

1.2.2 Methodological contributions

Previous research tends to test participation in online communities for customer support as one or two dependent variables (Nambisan and Baron 2007, 2009, 2010). As I am identifying

new and different forms of participation, there are not likely to be available measurement scales that I can apply. Hence, I need to develop, validate, and test scales and items for the different forms of participation. Compared to established research, this means that I offer a more encompassing way to measure and test participation. Furthermore, established research does not explain how companies can facilitate the antecedents of participation. Hence, in addition to identifying facilitators, I must also develop, validate, and test scales and items for these facilitators.

1.2.3 Managerial contributions

Based on this dissertation, I can elaborate on how companies can stimulate participation and thereby ensure the success of their online community for customer support. In order to stimulate participation, the company needs to know how the consumers participate. The success of a support community depends on people asking for help as well as on people offering help, and there might also be other ways in which people participate. Furthermore, it might be that people are motivated differently based on the way they participate. Hence, in order for a company to motivate people to participate, it needs to know what types of participation it wants the consumers to contribute to, and seek to motivate them accordingly. This dissertation aims to identify ways in which consumers participate, show what motivates them to contribute to the different forms of participation, and find exact ways in which companies can facilitate the different motivational factors.

1.3 Outline

This dissertation starts with an elaborate literature review from which I extract a set of hypotheses and propose a preliminary research model (chapter 2). I then conduct an exploratory study, from which I suggest additional hypotheses and introduce the extended research model (chapter 3). Chapter 4 outlines methodological choices and procedures. Then I present the findings in chapter 5. In chapter 6, I discuss the findings in relation to the research model and established theory, and propose theoretical implications. In that chapter I also present managerial implications. Finally, in chapter 7, I present ideas for further research and discuss limitations.

2.0 THEORY, HYPOTHESES, AND PRELIMINARY RESEARCH MODEL

In this section, I first explain my process for the literature search. Then I discuss antecedents of participation and propose hypotheses based on the literature review. Next, I discuss different forms of participation. After that I search for possible facilitators of the antecedents. Finally, I use this as input to develop the preliminary research model.

2.1 Literature search

The aim of the literature search is to identify different antecedents of participation and different forms of participation in online communities. I searched for articles published in refereed academic journals in several ways. I participated in PhD courses entitled “Social Media Marketing” (Professor Robert Kozinets, Norwegian School of Economics, fall 2010), “Consumer Culture Theory” (Professor Craig Thompson, University of Sydney, fall 2008), and “Consumer Communities” (Professor Robert Kozinets, Norwegian School of Economics, fall 2007) that introduced papers on online communities featured in refereed journals (e.g., *Journal of Marketing*, *Journal of Consumer Research*, *Journal of Macromarketing*, *European Journal of Marketing*). I studied these papers to identify antecedents of participation, ways to facilitate the antecedents, and forms of participation, and in order to identify additional papers for further exploration. I also studied the reference lists of the papers to find new researchers and papers to focus on.

This work permitted the identification of key words such as *online community*, *co-creation*, *consumer innovation*, *brand community*, *consumer community*, *motivation*, *participation*, *contribution*, and *engagement*. I typed these key words into the search engines of online

databases like Business Source Complete, Emerald Insight, and Science Direct, which allowed me to conduct simultaneous searches in multiple journals such as *Journal of Marketing*, *Journal of Consumer Research*, *European Journal of Marketing*, *International Journal of Innovation Management*, and *International Journal of Information Management*. I also used the search engine Google Scholar, and searched directly in relevant journals such as *International Journal of Innovation Management*. I performed title-searches based on each of the different key words and used various combinations of the key words, and I also performed searches based on relevant authors only. Likewise, I conducted searches where I searched for both specific key words in the title field and for specific authors in the author field. In addition to the online literature search, I learned about relevant research presented at academic conferences like the “Consumer Culture Theory Conference” (Ann Arbor 2009) and the European conference of the “Association for Consumer Research” (London 2010).

I narrowed the scope of the search by excluding papers that exclusively focused on business to business (B2B) communities (e.g., Wang et al. 2013, Dholakia et al. 2009) and communities of professionals (e.g., Wasko and Faraj 2005, Chiu et al. 2006, Shih et al. 2010). People participate in these communities as part of their job, or because they need the insights to do their job. As their job and hence their income is influenced by their participation in the community, they might be expected to be motivated differently than people who participate in communities in their spare time. In addition, as I built and tested a quantitative research model, I depended on measurable variables and items. Thus I excluded qualitative studies (e.g., Fang and Neufeld 2009, Shah 2006, Roberts et al. 2014) and netnographic studies (e.g., Janzik and Raasch 2011, Füller et al 2006). This also meant that I excluded conceptual papers (e.g., Cavallone and Cassia 2012, Nuttavuthisit 2010, Zwass 2010, Vassileva 2012). However,

despite not being included in this review, many of these studies (e.g., Muniz and O'Guinn 2001) provide important insights and theoretical foundation that I can draw on.

For the purpose of identifying antecedents of participation and forms of participation, I focused on the direct, main effects found in the different studies. As a result, possible mediating and moderating effects were not included in the overviews of participation and antecedents of participation. For example, Nambisan and Baron (2009) propose that product content, member identity, and human interactivity influence the antecedents (i.e., *learning benefits*, *social integrative benefits*, *personal integrative benefits*, and *hedonic benefits*) of participation. They also propose product involvement and community identification (Nambisan and Baron 2007) as well as identification with community and identification with company (Nambisan and Baron 2010) as moderating effects. Excluding such effects from the literature review could result in the loss of important insights, and it could also make it challenging to compare my findings with previous research. However, including moderating and mediating effects could result in so many details that it would be difficult to generate a meaningful overview. Furthermore, my aim was not to replicate previous research. Rather, I wanted to find ways in which I could contribute to and expand established research. Although not included in the overview of participation and antecedents of participation, I later examined mediating effects and variables influencing the antecedents of participation in order to identify possible ways in which companies can facilitate the antecedents.

Based on these criteria, my initial overview includes 169 antecedents of participation and their adhering forms of participation, retrieved from 50 different papers. Some antecedents appear to be relatively similar and are investigated by several researchers. For example, I find 29 different antecedents that relate to the importance of strengthening and finding new social

relations (e.g., social identity: Tsai and Bagozzi 2014, sense of belonging: Zhao et al. 2012, and *social integrative benefits*: Nambisan and Baron 2009). Other antecedents are identified by only one study (e.g., *attitude towards the host firm*: Nambisan and Baron 2007).

Furthermore, some antecedents are broad and general. One example is extrinsic motivation (e.g., Sun et al 2012), which relates to benefits that are not connected to the activity itself, but rather to related outcomes of participation such as financial rewards and enhanced social status (ibid.). Other antecedents are much more specific, such as *social integrative benefits* (Nambisan and Baron 2007), which can be seen as one type of extrinsic motivation. Finally, I need to stress that, although I have done a systematic and extensive literature search, there could still be important contributions that I have overlooked.

In the appendices (appendix 1, table A), I include a table of all 169 antecedents I have identified through the literature review. The table also includes the names of the researchers, the forms of participation the antecedents influence, and the focus or context of the online community (brand, interest, innovation, or customer support). The forms of participation are marked with (-) if the relation between the antecedent and participation is negative, and with (r) if participation is measured by retrieving actual participation data. In this way, the table provides a comprehensive and detailed overview of participation in online communities. The appendix (appendix 1) includes a more detailed description of this table.

2.2 Antecedents of participation

Including all 169 antecedents I identify in the literature search would necessarily result in an unmanageable research model. More significantly, a change of context such as aim, size, and life-cycle of the community could influence the results (Shen et al. 2010). Nambisan and

Baron (2009) argue that, as their study was conducted in an online community for customer support, the insights largely apply to that context. As a consequence, a generalization of their findings to different contexts should be performed with care (ibid.). Along the same lines, Füller (2010) argues that a change in context would yield different results. Hence, instead of generalizing findings from studies on why consumers participate in open source software development, in which research is extensive, he conducts a study of why consumers participate in virtual communities initiated by producers (ibid.).

Several studies confirm that changing the context can result in different findings. For example, Xu et al. (2012) conducted an online survey among two groups: US students active on Facebook and Chinese students who were active on a wide variety of online communities. As expected, the results differed, but it could be difficult to determine the reason for the difference; for example, the difference could arise from a change in culture, or a change in the type of community (ibid.). Similarly, Sung et al. (2010) find that the antecedents of participation differ based on whether the online community is run by a company or by consumers. Finally, Muhdi and Boutellier (2011) find that people who participate in an open online community are motivated differently than people who participate in a closed offline innovation community. Based on these insights, I limit my research model to antecedents that have been tested and found significant in the context of online communities for customer support, which is the focus of my research. This means that I choose not to include antecedents that have been tested only in other types of communities, such as tenure (communities of interests: Zhao et al. 2013), community satisfaction (brand communities: Woisetchläger et al. 2008), or sense of efficiency (innovation communities: Muhdi and Boutellier 2011). However, I am aware that not including antecedents from other contexts in my research model could constrain the possibility to make new theoretical contributions, as

they could help explain why consumers contribute to online communities for customer support. But knowing that a change in context could influence the result (e.g., Xu et al. 2012, Sung et al. 2010, Muhdi and Boutellier 2011), and that including all antecedents would result in an extremely complex model, I consider this to be a reasonable decision.

As my research focuses on how companies can motivate consumers to participate in online communities for customer support, I will further limit my research model to antecedents that can be facilitated by companies. As a result, I exclude the antecedent sense of responsibility to community (Nambisan and Baron 2010) even though it influences participation in an online customer support community. Nambisan and Baron (2010) argue that, as a result of the relationships consumers have with their peer consumers in the community, they feel a sense of responsibility to the community. This sense of responsibility can lead the consumer to participate in the community (ibid.). While it is possible to imagine how the antecedents that I choose to include can be facilitated by the company, it is more difficult to picture how the company can facilitate consumers' feeling towards one another. However, I recognize that this decision could result in the exclusion of an interesting dimension. Also, in retrospect it might be possible to think of ways in which companies can stimulate positive feelings between community members. Nevertheless, by focusing on antecedents that can be facilitated by companies, I have the opportunity to make new theoretical and managerial contributions by identifying and testing how companies can facilitate these antecedents and thereby indirectly ensure consumer participation.

Below I discuss the antecedents that I include in my preliminary research model and test as part of the main study. Researchers have tested these antecedents and found them significant for participation in online communities for customer support (Nambisan and Baron 2007,

2009, 2010); furthermore, these antecedents can be facilitated and influenced by the company. The antecedents I include are *hedonic benefits*, *learning benefits*, *personal integrative benefits*, *social integrative benefits*, *attitude towards the host firm*, and *sense of partnership with the company* (ibid.). The relations between these antecedents and the different forms of participation are tested as hypotheses 1 – 6.

I use the six antecedents included in the research model as categories to group other antecedents. The categorization is based on the researchers' own theoretical definitions of the antecedents, as well as on the items the researchers apply for testing the antecedents. For example, I find six antecedents that are similar to, or related to, *learning benefits* (e.g., Learning: Muhdi and Boutellier 2011, self-development: Nov et al. 2010, and improve skills: Schulz and Wagner 2008). In this way, I am able to draw on insights from studies conducted in other contexts while at the same time making sure that a similar or related antecedent has been tested in the context of online communities for customer support. Staying true to my focus on online communities for customer support, this also means that antecedents that cannot be grouped into one of the six categories are excluded from the research model.

In the following sections, I present tables for each of the six antecedents I include in the research model. In the tables, I first list the studies that have tested a similar or related antecedent, then I list the exact label the researchers use for the antecedent, and finally I list the type(s) of participation the researchers have found that the antecedent influence. As with the main table included in appendix 1 (table A), I indicate with a (-) where the antecedent is negatively related to participation and with an (r) where the researchers have retrieved actual data for participation.

2.2.1 Hedonic benefits

Study	Antecedent	Participation
Füller (2006)	Intrinsic innovation interest	Interest in further participation, Future participation frequency
Füller et al. (2010)	Experienced enjoyment	Intention of future participation
Füller et al. (2008)	Task motivation	Participation interest
Nambisan and Baron (2007)	Hedonic benefits	Participation (r)
Nambisan and Baron (2009)	Hedonic benefits	Participation (r)
Nov et al. (2010)	Enjoyment	One to one connections (r), One to many connections (r)
Nov (2007)	Fun	Contribution
Okazaki (2009)	Intrinsic enjoyment	Desire to participate
Schulz and Wagner (2008)	Intellectual challenge	Participation
Schulz and Wagner (2008)	Fun	Participation
Sun et al. (2012)	Intrinsic motivation	Continuance intention
Wang and Fesenmaier (2004)	Hedonic benefits	Level of involvement
Zheng et al. (2011)	Intrinsic motivation	Participation intention

TABLE 1: HEDONIC BENEFITS

I identify nine antecedents from 12 different studies that relate to *hedonic benefits*. All antecedents concern people’s enjoyment of their participation in the community. For example, consumers engage in communities because they consider the activity playful, challenging, and meaningful (Füller et al. 2010); interesting and pleasant (Sun et al. 2012); entertaining and amusing (Wang and Fesenmaier 2004); fun (Schulz and Wagner 2008, Nov 2007); and an intellectual challenge (Schulz and Wagner 2008).

Nambisan and Baron (2007, 2009) define *hedonic benefits* as the positive reactions and enjoyment people derive from highly interesting, pleasurable, and mentally stimulating experiences. Expectations to achieve these benefits motivate people to participate in communities set up by the company (ibid.). The researchers (ibid.) identify two sources of *hedonic benefits*. First, people can derive considerable pleasure from discussing the relevant topics with others. Second, people might find the problem-solving processes mentally or intellectually stimulating. Also Wang and Fesenmaier (2004) use the term *hedonic benefits*, and argue that hedonically motivated consumers participate in activities from which they can elicit enjoyment, entertainment, amusement, and fun.

Intrinsic motivation (Füller 2006, Sun et al. 2012, Zheng et al. 2011, Okazaki 2009) is closely related to *hedonic benefits*, and is a rather general antecedent indicating that consumers value the activity for its own sake (Füller 2006). People who are intrinsically motivated participate because they perceive the activities as playful, rewarding, meaningful, interesting, and enjoyable (Füller 2006, Sun et al. 2012). In their 2008 paper, Füller et al. (2008) use the term *task motivation* instead of *intrinsic motivation*. *Task motivation* relates to the extent to which a person likes to build, repair, and modify his or her own product and build equipment for his or her own product (Füller et al. 2008). *Fun* is perceived as one type of intrinsic motivator (Schulz and Wagner 2008), which is found to motivate people to participate (Schulz and Wagner 2008, Nov 2007). In addition, *intellectual challenge* is seen as an intrinsic motivation (Schulz and Wagner 2008) that influences people's participation in online communities (ibid.).

Another general antecedent related to *hedonic benefits* is *enjoyment* (Nov et al. 2010, Füller et al. 2010), which indicates that consumers participate because they consider the activities fun, exciting, and enjoyable (Füller et al. 2010). Although they tested enjoyment as a separate antecedent (Füller et al. 2010), *enjoyment* is also used as one of the characteristics of *intrinsic motivation* (Füller 2010), indicating that *enjoyment* and *intrinsic motivation* are relatively similar.

Nambisan and Baron (2007, 2009) find that *hedonic benefits* influence participation in online communities for customer support. In addition, I have identified nine studies that confirm that antecedents closely related to *hedonic benefits* influence participation in other types of online

communities. This supports the first hypothesis, which I adapt from Nambisan and Baron (2009):

Hypothesis 1: Beliefs regarding hedonic benefits will positively influence customers' participation in online communities for customer support.

2.2.2 Learning benefits

Study	Antecedent	Participation
Muhdi and Boutellier (2011)	Learning	Participation (r)
Nambisan and Baron (2007)	Learning benefits	Participation (r)
Nambisan and Baron (2009)	Learning benefits	Participation (r)
Nambisan and Baron (2010)	Expertise enhancement	Contribution to community (r), Contribution to company (r)
Nov et al. (2010)	Self-development	Information sharing (r) (-), Meta-information sharing (r), One to one connections (r), One to many connections (r)
Schulz and Wagner (2008)	Improve skills	Participation

TABLE 2: LEARNING BENEFITS

I identify five antecedents from six different studies that relate to the *learning benefits* consumers expect to achieve from participating in online communities. The antecedents are operationalized and tested in slightly different ways by different researchers, but common for all antecedents is that they relate to how people participate in online communities because they want to learn. *Learning benefits* consist of gaining experiential and factual knowledge (Nambisan and Baron 2007, 2009). *Experiential knowledge* relates to the insights people gain through working on community projects, while *factual knowledge* is information people gain by observing the activities and discussions in the online community (ibid.). When testing if *learning* is an antecedent to participation, Muhdi and Boutellier (2011) find that the consumers learn and gain new insights by getting feedback from the company and from other community members, as well as by working on interesting and challenging questions. The concept of *expertise enhancement* that Nambisan and Baron 2010 define, is almost identical

to *learning benefits* and is operationalized and measured in the same way as *learning benefits* (Nambisan and Baron 2007, 2009).

Self-development (Nov et al. 2010) and *skill improvement* (Schulz and Wagner 2008) are almost identical antecedents, and are both very similar to *learning benefits*. *Self-development* (Nov et al. 2010) relates to improvement of skills by learning from others in the field (ibid.), while *skill improvement* (Schulz and Wagner 2008) has to do with people participating because they want to get better at writing codes for their own software (ibid.).

Based on the insights from the above studies, it can be hypothesized that consumers participate in online communities for customer support because they want to learn, which leads to the second hypothesis (adapted from Nambisan and Baron 2009).

Hypothesis 2: Beliefs regarding learning benefits will positively influence customers' participation in online communities for customer support.

2.2.3 Personal integrative benefits

Study	Antecedent	Participation
Chang and Chuang (2011)	Reputation	Quality of shared knowledge
Füller (2006)	Show ideas	Interest in further participation
Jeppesen and Fredriksen (2006)	Firm recognition	User innovation
Nambisan and Baron (2007)	Personal integrative benefits	Participation (r)
Nambisan and Baron (2009)	Personal integrative benefits	Participation (r)
Nambisan and Baron (2010)	Self-image enhancement	Contribution to community (r)
Nov et al. (2010)	Reputation building	Meta-info. Sharing (r), One to one connections (r), One to many connections (r)
Nov (2007)	Enhancement	Contribution
Okazaki (2009)	Social enhancement	Desire to participate
Roberts et al. (2006)	Status and opportunity motives	Participation (r)
Schaedel and Clement (2010)	Social status	Time exposure
Yen et al. (2011)	Self-enhancement	In-role participation, Extra-role participation
Zhao et al. (2013)	Visibility benefits	Intention to provide info.
Zheng et al. (2011)	Gain recognition	Participation intention

TABLE 3: PERSONAL INTEGRATIVE BENEFITS

For fourteen different studies suggest that antecedents related to *personal integrative benefits* motivate participation in online communities. Nambisan and Baron (2007, 2009) find that *personal integrative benefits*, operationalized as expected benefits derived from gaining status and recognition within the community, motivate people to participate in online community activities. The antecedent *personal integrative benefits* is similar to *self-image enhancement*. Although applying the same items and the same data as in their previous papers (Nambisan and Baron 2007, 2009), Nambisan and Baron use the term *self-image enhancement* in their 2010 paper (Nambisan and Baron 2010).

Enhancement (Nov 2007), *social enhancement* (Okazaki 2009), and *self-enhancement* (Yen et al. 2011) are very similar to *personal integrative benefits* and *self-image enhancement*. Specifically, *enhancement* relates to the possibility to publicly exhibit knowledge and to feel needed (Nov 2007), and to impress others and gain recognition (Okazaki 2009), while *self-enhancement* (Yen et al. 2011) refers to feeling good about or proud of oneself. Sharing with others, providing constructive feedback, and helping others allow consumers to signal their superiority (ibid.).

Füller (2006) tests the more general antecedent *show ideas*. By showing ideas, consumers are able to become visible and receive recognition from other consumer participants as well as from the producer (ibid.). Zhao et al. (2013) are more specific. They (ibid.) test the closely related antecedent *visibility benefits*, which relates to how a user expects to gain reputation and respect by providing information and resources. Similarly, Nov et al. (2010) find that *reputation building*, which they (ibid.) define as attainment of status in the community, is linked to increased contribution, while Chang and Chuang (2011) find that the ability to enhance *reputation*, including respect and status, influences the quality of shared knowledge.

Other researchers measure status specifically as an antecedent of participation. Roberts et al. (2006) use the term *status and opportunity motives*, and argue that contributors who are motivated by status concerns will participate as a way of signaling and improving their competencies and abilities, while Schaedel and Clement (2010) employ the term *social status* and argue that by influencing others, people are able to gain respect, reveal competences, and even attain stardom.

Personal integrative benefits usually relates to recognition from others in general. However, some researchers (e.g., Jeppesen and Fredriksen 2006, Zheng et al. 2011) specify whether the recognition comes from peer consumers or from the company facilitating the online community. Zheng et al. (2011) measure *gain recognition* as the importance of getting recognition from the company. Jeppesen and Fredriksen (2006) draw a clear distinction between recognition from the company and recognition from peer consumers. They (ibid.) find that recognition from the company is significant for user innovation while recognition from peers is not. The consumers idolize the employees of the company as they are the ones who develop the vital parts of the products (ibid.). Hence, the consumers want to identify with the employees of the company, and recognition and attention from them becomes increasingly important (ibid.). Despite potential differences between recognition from peers and recognition from the company, I follow the majority of studies (e.g., Chang and Chuang 2011, Füller 2006, Okazaki 2009) and focus on the influence of *personal integrative benefits* in general. The distinction between the two sources is tested in contexts other than online communities for customer support. Hence, the findings might not be comparable. Furthermore, not testing this distinction enables me to compare my results with the findings of Nambisan and Baron (2007, 2009, 2010). Given the strong support for the impact of *personal integrative benefits* on participation (e.g., Chang and Chuang 2011, Füller 2006, Zhao et al.

2013), it seems reasonable to believe that *personal integrative benefits* influence participation.

This leads to the third hypothesis (adapted from Nambisan and Baron 2009):

Hypothesis 3: Beliefs regarding personal integrative benefits will positively influence customers' participation in online communities for customer support.

2.2.4 Social integrative benefits

Study	Antecedent	Participation
Bagozzi and Dholakia (2006)	Social identity	Participation we-intentions
Casalo et al. (2013)	Integration	Intention to participate
Casalo et al. (2011)	Affective commitment	Participation
Casalo et al. (2010)	Identification	Intention to participate
Chang et al. (2013)	Identification with community	Intention to receive info, Intention to share info
Chang and Chuang (2011)	Identification	Quality of shared knowledge, Quantity of shared knowledge
Chen et al. (2012)	Social interaction	Quality of shared knowledge
Dholakia et al. (2004)	Individual connectedness	Participant duration (r)
Jin Byoung-ho et al. (2010)	Social identity	Participation we-intentions
Jin Xiao-Ling et al. (2010)	Sociability attribute	Active participation
Lee et al. (2011)	Affective commitment	Continuance intention
Nambisan and Baron (2009)	Social identification	Engagement intention
Nambisan and Baron (2007)	Social integrative benefits	Participation (r)
Nov et al. (2012)	Social integrative benefits	Participation (r)
Okazaki (2009)	Relational embeddedness	Meta-knowledge contribution (r)
Phang et al. (2009)	Social identity	Desire to participate
Shen et al. (2010)	Perceived sociability	Knowledge seeking, Knowledge contribution
Shen et al. (2010)	Awareness of social presence	Knowledge contribution (r)
Shen et al. (2010)	Affective social presence	Knowledge contribution (r)
Shen et al. (2010)	Cognitive social presence	Knowledge contribution (r)
Sung et al. (2010)	Social identity	Knowledge contribution (r)
Tsai and Bagozzi (2014)	Interpersonal utility	Participation intention
Tsai et al. (2012)	Social identity	Desire to contribute
Tsai et al. (2012)	Need for affiliation	Member interaction, Activity involvement
Tsai et al. (2012)	Identification	Member interaction, Activity involvement
Tsai and Pai (2014)	Affective social identity	Participation intentions
Tsai and Pai (2014)	Evaluative social identity	Participation intentions
Wang and Fesenmaier (2004)	Social benefits	Level of involvement
Woisetschlager et al. (2008)	Community identification	Participation
Xu et al. (2012)	Attachment motivation	Citizenship knowledge sharing behavior
Xu et al. (2012)	Social support orientation	Citizenship knowledge sharing behavior
Yoon and Rolland (2012)	Perceived relatedness	Knowledge sharing behavior
Zhao et al. (2013)	Social benefits	Intention to consume info.
Zhao et al. (2012)	Familiarity	Intention to share knowledge
Zhao et al. (2012)	Sense of belonging	Intention to get knowledge, Intention to share knowledge
Zhao et al. (2012)	Perceived similarity	Intention to get knowledge
Zhou et al. (2013)	Perceived social value	Participation intention

TABLE 4: SOCIAL INTEGRATIVE BENEFITS

Antecedents related to *social integrative benefits* appear to be the most commonly tested antecedents of participation. From 28 different studies I identify 29 antecedents related to *social integrative benefits*. Nambisan and Baron (2007, 2009) find that the possibility to achieve *social integrative benefits*, which they (ibid.) operationalize as social and relational ties, a sense of belongingness, and social identity, motivates people to participate. *Social benefits* (Wang and Fesenmaier 2004, Zhao et al. 2013) are very similar to *social integrative benefits*, and relate to benefits such as help, social interaction, and support from other community members (Zhao et al. 2013). Chang and Chuang (2011) measure *social interaction* separately, and find that the extent and frequency of social interaction affects participation.

Several researchers test more specific antecedents related to *social integrative benefits*, such as *social identity* (Bagozzi and Dholakia 2006, Dholakia et al. 2004, Shen et al. 2010, Okazaki 2009, Tsai and Bagozzi 2014), *identification* (Casalo et al. 2010, Chang and Chuang 2011, Tsai et al. 2012), *social identification* (Lee et al. 2011), *identification with community* (Chang et al. 2013), *community identification* (Woisetschläger et al 2008), *integration* (Casalo et al. 2013), *individual connectedness* (Chen et al. 2012), *perceived relatedness* (Yoon and Rolland 2012), and *sense of belonging* (Zhao et al. 2012). Common for these antecedents is that they have to do with consumers perceiving themselves as members of the community. For example, people emphasize the similarities they have with other group members as well as the dissimilarities with out-groups (Bagozzi and Dholakia 2006, Dholakia et al. 2004).

Some researchers discuss the differences between cognitive and affective social identification but still treat it as one antecedent (e.g., Bagozzi and Dholakia 2006, Casalo et al. 2010). Other researchers test antecedents related to *cognitive identification* and *affective identification* as

separate antecedents (e.g., Tsai and Pai 2014, Shen et al. 2010). *Affective social identity* relates to how attached one is to the community and how strong one's feeling of belongingness is, while *evaluative social identity* relates to how valuable and important one considers oneself to be for the community (Tsai and Pai 2014). *Affective social identity* is also tested by Casalo et al. (2011) (affective commitment), Jin Xiao-Ling et al. (2010) (affective commitment), and Nov et al. (2012) (relational embeddedness). Also, the antecedents *need for affiliation* (Tsai et al. 2012) and *attachment motivation* (Xu et al. 2012) are relatively similar to *affective social identity*, and have to do with the desire for finding social contact (Tsai and Pai 2014).

In addition, I identify four antecedents, namely *perceived sociability* (Phang et al. 2009), *sociability attribute* (Jin Byoungho et al. 2010), *perceived social value* (Zhou et al. 2013), and *interpersonal utility* (Sung et al. 2010), that focus on the members' evaluations of the communities' abilities to provide valuable social belonging and relations. Finally, Xu et al. (2012) find that *social support orientation*, which relates to getting help and support from other members in the community when needed, influences participation.

In summary, Nambisan and Baron (2007, 2009) find that *social integrative benefits* influence people to participate in online communities for customer support, and other researchers provide numerous examples of how antecedents related to *social integrative benefits* influence participation in other online communities. I therefore propose that *social integrative benefits* influence participation in online communities for customer support. This leads to hypothesis four (adapted from Nambisan and Baron 2009).

Hypothesis 4: Beliefs regarding social integrative benefits will positively influence customers' participation in online communities for customer support.

2.2.5 Attitude towards the host firm

For *attitude towards the host firm*, I have not developed a table, as only Nambisan and Baron (2007) test this antecedent. Nambisan and Baron (2007) find that *attitude towards the host firm* influences people's participation in virtual customer environments. Positive and negative feelings from interactions in the community translate into positive and negative attitudes towards the host firm (ibid.). These attitudes influence people's participation in virtual customer environments (ibid.). Although not tested by researchers other than Nambisan and Baron (2007), I want to test this antecedent as they (ibid.) test it in online communities for customer support. I expect that it also influences participation in the customer support communities I explore. Testing this antecedent enables comparison of the results from my study with those of Nambisan and Baron (2007). This leads to the fifth hypothesis (adapted from Nambisan and Baron 2007):

Hypothesis 5: Attitude towards the firm will positively influence customers' participation in online communities for customer support.

2.2.6 Sense of partnership with the company

Study	Antecedent	Participation
Chen et al. (2012)	Sponsoring firm feedback	Number of quality ideas (r)
Chen et al. (2012)	Sponsoring firm responsiveness	Number of ideas (r), Number of quality ideas (r), Participant duration (r)
Nambisan and Baron (2010)	Sense of partnership with the company	Contribution to company (r)

TABLE 5: SENSE OF PARTNERSHIP WITH THE COMPANY

Nambisan and Baron (2010) find that people's *sense of partnership with the company* positively influences their willingness to contribute to product innovation with the company.

A sense of partnership with the company relates to professional relationships and not to friendships, and this antecedent concerns the customers' perceptions of their role as the company's innovation partner. The researchers (ibid.) measure *sense of partnership with the company* as the extent to which the consumers feel their contributions are considered or utilized by the company, the extent to which they feel that they receive quick feedback from the company on their contributions, the extent to which they understand what contributions the company is looking for, and the extent to which they know the desired goals and outcomes of their participation (ibid.).

Sponsoring firm responsiveness (Chen et al. 2012) is closely related to *sense of partnership with the company*, but is much more specific. While the antecedent *sense of partnership with the company* (Nambisan and Baron 2010) encompasses quick feedback from the company as one of its items, Chen et al. (2012) measure *sponsoring firm responsiveness* as a separate antecedent. They (ibid.) find that a short waiting time for company responsiveness makes the consumers feel that their contributions are taken seriously, and it also helps the company to build a more positive image for itself. As a result, the consumers want to participate in the community (ibid.). Similarly, Nambisan and Baron (2010) measure the extent to which consumers feel that their contributions are considered or utilized by the company as one item of *sense of partnership with the company*. Chen et al. (2012), on the other hand, measure *sponsoring firm feedback* as a separate antecedent of participation, and define it as the extent to which the consumers receive feedback from the company. Both positive and negative feedback positively influence participation (ibid.). This finding implies that what matters is that the company considers and evaluates the contributions. Supported by these findings, I assume that *sense of partnership with the company* influence participation in online

communities for customer support, which leads to hypothesis six (adapted from Nambisan and Baron 2010):

Hypothesis 6: Customers' sense of partnership with the company in the online customer forum will positively influence customers' participation in online communities for customer support.

2.3 Participation

In this section, I identify different forms of participation in online communities for customer support. Research on participation in online communities for customer support is rather limited. In two of their studies, Nambisan and Baron (2007, 2009) operationalize participation as one general variable. In their 2010 study, they (Nambisan and Baron 2010) distinguish between *contribution to company* and *contribution to community*. Hence, I draw on a wider body of literature and also review studies that test participation in other types of online communities. A general challenge in this regard is that, compared to the researchers' descriptions, definitions, and operationalization of the antecedents, participation tends to be treated much more superficially. Thus, as compared to the antecedents it is difficult to get a thorough understanding of participation.

In order to test participation, some researchers ask the respondents about their actual participation in the community (e.g. Phang et al. 2009; Tsai et al. 2012). For example, Tsai et al. (2012) ask the respondents to rate the extent to which they actively participate in the community activities, spend time engaging in the community activities, and provide feedback related to participation in the community's activities. Other researchers (e.g., Koh et al. 2007, Nambisan and Baron 2010, Nov et al. 2010) are able to retrieve data about the consumers'

actual participation, such as the number of postings they have made in the online community (Nambisan and Baron 2010). Finally, some researchers (e.g., Chang et al. 2013, Zhao et al. 2013) ask respondents to indicate their intention or desire to participate. Erden et al. (2012) argue that measuring participation intentions yields more accurate results than measuring actual participation. When measuring actual participation, researchers cannot capture whether people intended to participate or whether participation happened by coincidence (ibid.). Instead, by measuring participation intentions, researchers are able to establish that participation is an intended, deliberate, and desired action (ibid.). However, research also shows that there is a significant and positive relation between participation intention and actual participation (e.g., Tsai and Pai 2014, Bagozzi and Dholakia 2006, Tsai and Bagozzi 2014, Dholakia et al. 2004). Hence, for the purpose of this study, I will draw on insights both from studies measuring actual participation and from studies measuring participation intentions.

Most studies tend to measure participation as one general dependent variable (e.g., Nambisan and Baron 2007, 2009, Benlian and Hess 2011, Füller et al. 2008, Zhou et al. 2013).

Some studies separate between *quantity* and *quality of participation* as dependent variables (e.g., Chang and Chuang 2011, Chen et al. 2012, Tsai and Bagozzi 2014), but this distinction does not say much about forms of participation and activities in which consumers might be involved. Others (e.g., Yen et al. 2011, Yi and Gong 2013) distinguish between *in-role participation* (the extent to which the members follow the rules and conventions of the community) and *extra-role participation* (voluntary contributions beyond what is required by the rules and conventions), but this distinction does not help identify actual forms of participation. Finally, Bagozzi and Dholakia (2006) test how different antecedents, through participation intentions, influence different product-related activities. By using participation

intentions as a mediator, however, the researchers (ibid.) are not able to test the direct relation between different antecedents and different forms of participation. As none of the above studies test the relation between different antecedents and different forms of participation, I do not include them in my overview of forms of participation and in my research model. Nevertheless, the studies provide useful insights that I will draw on in order to better understand participation.

A small number of studies (e.g., Phang et al. 2009, Tsai et al. 2012, Nov et al. 2012) test the relations between different antecedents and different forms of participation. However, each of these studies tests only two forms of participation (e.g., *posting activity* and *viewing activity*: Koh et al. 2007, *intention to consume knowledge* and *intention to provide knowledge*: Zhao et al. 2013, and *knowledge seeking* and *knowledge contribution*: Phang et al. 2009), and none of these studies (ibid.) provides a framework encompassing a broader set of different forms of participation. Hence it is difficult to get a holistic picture of the relations between different antecedents and different forms of participation.

In order to address this issue, I consult qualitative studies on online communities (e.g., Fang and Neufeld 2009, Shah 2006, Roberts et al. 2014, Janzik and Raasch 2011, Füller et al. 2006, Kozinets et al. 2008) for insights. In particular, I find Kozinets et al.'s (2008) paper very useful. They (ibid.) suggest that consumers participate in online communities through the acts of *help giving*, *help seeking*, *collective reframing*, and *reinforcing*. This distinction (ibid.) is based on Hargadon and Bechky's (2006) qualitative study of collective creativity in organizations. Although not focusing on online communities, this (ibid.) study proves relevant to my research: by drawing on their (ibid.) findings, I am able to develop a more elaborate perspective on participation. I find that the different forms of participation that I identify from

the literature review of participation in online communities can all be grouped based on Hargadon and Bechky's (2006) four categories. Hence, I will use this framework as a basis when I develop a model of how consumers participate in online communities of customer support.

The table below first lists the four forms of participation: *help seeking*, *help giving*, *reflective reframing*, and *reinforcing*. After that, I list studies that test related forms of participation, then I state the exact type of participation these researchers test, before I finally indicate whether the researchers measure participation as actual participation (by asking the respondents or by retrieving actual data) or as participation intention. Following the table, I discuss the four forms of participation in more detail.

	Study	Participation	Actual participation		Intention
			Asking	Retrieved	
Help seeking	Chang et al. (2013)	Intention to receive information			X
	Koh et al. (2007)	Viewing activity		X	
	Phang et al. (2009)	Knowledge seeking	X		
	Zhao et al. (2013)	Intention to consume information			X
	Zhao et al. (2012)	Intention to get knowledge			X
	Zheng et al. (2013)	Continuance intention to consume info.			X
Help giving	Chang et al. (2013)	Intention to send information			X
	Koh et al. (2007)	Posting activity		X	
	Nambisan and Baron (2010)	Contribution to community		X	
	Nov et al. (2010)	Information sharing		X	
	Nov et al. (2010)	Meta-information sharing		X	
	Phang et al. (2009)	Knowledge contribution	X		
	Zhao et al. (2013)	Intention to provide information			X
	Zhao et al. (2012)	Intention to share knowledge			X
	Zheng et al. (2013)	Continuance intention to provide info.			X
	Reflective reframing	Nambisan and Baron (2010)	Contribution to company		X
Reinforcing	Nov et al. (2010)	One to one connections		X	
	Nov et al. (2010)	One to many connections		X	
	Tsai et al. (2012)	Member interaction	X		
	Tsai et al. (2012)	Activity involvement	X		

TABLE 6: PARTICIPATION IN ONLINE COMMUNITIES

2.3.1 Help seeking

Hargadon and Bechky (2006) suggest that people participate by seeking help. Through *help seeking*, they (ibid.) find that people ask others to participate to solve a particular problematic situation. This request can be made formally, for example by presenting problems to others in

the organization in formal meetings, or less formally, for example by asking someone face-to-face when meeting them in the hallway (ibid.). None of the studies I review distinguish between formal and informal ways of asking for help. Koh et al. (2007) take a general approach and measure the number of posts the consumers view within a given timeframe in order to find answers to their problems. Zhao et al. (2012) and Chang et al. (2013) measure *help seeking* based on what kind of information the consumers seek, such as purchase information, information about product characteristics, and information about other people's experience with the product (Zhao et al. 2012). Furthermore, Phang et al. (2009) focus on how often the consumers seek help in the community, such as how frequently they use the community, how regularly they use it, and if they use it several times a week, several times a month, or once every few months (ibid.). Finally, Zheng et al. (2013) and Zhao et al. (2013) focus on different ways in which the consumers use the community to search for help, like browsing for information or posting questions (Zhao et al. 2013).

2.3.2 *Help giving*

Hargadon and Bechky (2006) find that people participate by giving help. As with *help seeking*, *help giving* happens in formal and informal ways (ibid.). When helping someone in a formal way, the ones providing help might ask their managers for permission as well as for compensation for their efforts (ibid.). Giving help informally, on the other hand, happens at the help givers expense, as they have to use time they otherwise would have spent on working on their own projects (ibid.). I focus my research and literature review on online communities where the participating customers are consumers who contribute during their free time and not as part of their job. Hence, related to Hargadon and Bechky's (2006) distinction between formal and informal *help giving*, I explore how consumers give help informally.

Researchers focusing on online communities refer to various terms for giving help. Some researchers use terms related to sending and providing information (e.g., *intention to send information*: Chang et al. 2013, *intention to provide information*: Zhao et al. 2013, and *continuance intention to provide information*: Zheng et al. 2013), some refer to sharing information and knowledge (*share knowledge*: Zhao et al. 2012, and *information sharing* and *meta-information sharing*: Nov et al. 2010:), whereas others refer to contribution (*contribution to community*: Nambisan and Baron 2010, and *knowledge contribution*: Phang et al. 2009). Finally, Koh et al. (2007) apply the more general term *posting activity*, which is measured by simply counting how many postings the consumer has contributed to the community.

2.3.3 Reflective reframing

Through *reflective reframing*, people come up with new insights by reframing problems, combining their knowledge, and making new sense of what they already know (Hargadon and Bechky 2006). *Reflective reframing* is in many ways similar to *collective reflection* (Hemetsberger and Reinhardt 2006). Through *collective reflection*, members of online communities conceptualize problems and new ideas through lively interactive conversations where they, for example, evaluate, explain, reject, or correct ideas, and defend or insist on their opinions (ibid.). Jayanti and Singh (2010) outline *reflective reframing* in more detail. They (ibid.) study collective processes involved in consumer learning in online health communities, and distinguish between *reflecting* and *refining* (ibid.). *Reflecting* relates to interpreting experiences in order to form assertions or beliefs about the problem, such as describing the problem and identifying similarity and variation between different problems (ibid.). For online communities for customer support, this could indicate that consumers, through reflecting, attempt to find out what a new and unexpected problem really is about by

comparing the problem to other problems that are being discussed in the community. *Refining* is defined as reframing, reconfirming, or restructuring problems and solutions by integrating others' experiences with one's own experiences (ibid.). This could, for example, mean that in online communities for customer support, consumers might alter their perception of a challenge or problem based on discussions with other consumers.

Based on the definitions of *reflecting* and *refining* (Jayanti and Singh 2010), the two processes appear rather similar, and both processes are in line with Hargadon and Bechky's (2006) definition of *reflective reframing*. Furthermore, as Hargadon and Bechky (2006) keep *reflective reframing* as one type of participation, I follow in their footsteps. However, by drawing on the learnings from Jayanti and Singh's (2010) study, I am able to gain a deeper understanding of what *reflective reframing* is about. With this perspective, activities focusing on coming up with a new product or improving an existing product can be seen as *reflective reframing*. Likewise, more general discussions about relevant products and services, or discussions on other topics, could belong to this category. More specific activities dedicated to finding a solution to a particular problem one might have, or attempts to solve someone else's problem, would rather be characterized as *help seeking* and *help giving* respectively. Nambisan and Baron's (2010) component of *contribution to company* can be grouped as *reflective reframing*. Following Nambisan and Baron (2010), *contribution to company* encompasses participation in activities and discussions dedicated to the development of new products as well as to the improvement of existing products.

2.3.4 Reinforcing

Reinforcing activities are activities that support individuals engaging in *help seeking*, *help giving*, and *reflective reframing*, and are therefore critical to ensuring and stimulating

collective creativity (Hargadon and Bechky 2006). Maintaining the social relations between the members in the community is particularly important in this regard, as social interactions give meaning and value to the activities that the community members conduct (ibid.). More specifically, the researchers (ibid.) identify two types of *reinforcing* behaviors. First, they (ibid.) find that people are reinforced by positive experiences from their previous engagement in *help seeking*, *help giving*, and *reflective reframing*: people who have had a positive experience from participating in one of these activities are more likely to participate again. Second, *reinforcing* activities can relate to shared values and beliefs of the people involved, and the adhering rewards and punishments (ibid.). This understanding implies that the community members might for example thank and give credit and rewards to the ones helping out in the community.

Two of the studies I review for this dissertation (Nov et al. 2010, Tsai et al. 2012) test how people participate by building and maintaining social relations to other members of the community. Nov et al. (2010) distinguish between *one-to-one connections* (which they measure by the number of connections the consumer has) and *one-to-many connections* (measured by the number of groups the consumer is a member of). This way, *one-to-one connections* and *one-to-many connections* can give a clear indication of social relations between the members in the community, which is a prerequisite for the community activities (Hargadon and Bechky 2006). Closely related, but more general, is Tsai et al.'s (2012) dimension of *member interaction*. *Member interaction* relates to the extent and frequency of the members' communication, cooperation, and interaction with other members (ibid.). Tsai et al. (ibid.) also propose *activity involvement* as a dependent variable. *Activity involvement* is defined as people's active involvement in the activities of the community, and includes the extent to which people provide feedback related to the activities on the community website

(ibid.). In this way, *activity involvement* can be seen as a way to reinforce the values and beliefs of the group (Hargadon and Bechky 2006).

2.4 Facilitators of the antecedents

Having identified antecedents of participation, and forms of participation, I revisit the literature in order to identify possible ways in which companies can facilitate the six antecedents that I include in the research model.

I apply the terms *facilitate* and *facilitators* for several reasons. First, companies involved in consumer communities need to participate in the community on the same terms as the consumers (e.g., McAlexander et al. 2002). Second, following the consumer community literature (e.g., Kozinets 1999, Muniz and O'Guinn 2001), consumer communities often emanate from the grassroots in opposition to companies. As a result, companies are not in a position to force consumers to behave in a certain way: consumers do not want to be managed. Besides, if the consumers feel uncomfortable with company interventions in the community, they can easily leave the community at any moment.

Following established research (e.g., Nambisan and Baron 2007) I find several different antecedents that are positively related to participation, but a company would have a difficult time trying to control these antecedents. For example, people's expectations about gaining *personal integrative benefits* motivate them to participate in the community (e.g., Nambisan and Baron 2007, 2009, 2010). The company cannot instruct people to raise their expectations about *personal integrative benefits*. However, what the company might do is to find ways to make it easier for people to achieve *personal integrative benefits*. In this way, the company

can facilitate *personal integrative benefits* and thereby also strengthen people's expectations about *personal integrative benefits*. Significantly, expectations about *personal integrative benefits* do in turn motivate people to participate (e.g., Nambisan and Baron 2007, 2009, 2010). Thus, for the purpose of this dissertation, facilitators can be seen as tools and mechanisms the company uses, as well as actions the company takes, in order to strategically and positively influence the antecedents of participation.

From the literature review I identify 37 variables influencing the antecedents of participation, but I do not include any of them in my research model. None of these variables relates to mechanisms or tools the company can use, or actions the company can take, to strategically and deliberately facilitate the antecedents of participation. Rather, the identified variables tend to relate to factors outside the company's direct control, such as consumers' evaluations and perceptions (e.g., *affective and cognitive social presence*: Shen et al. 2010, *perceived similarity*: Zhao et al. 2012 and Casalao et al. 2013, and *customers' affective evaluation of interaction experience in the community*: Nambisan and Baron 2007), customers' needs (e.g., *interpersonal needs* and *need for activity*: Chang et al. 2013), or customers' activities (e.g., *viewing posts*: Zhou et al. 2013, and *human interactivity*: Nambisan and Baron 2009). Of course, companies may find ways to facilitate and influence these variables. Still, variables such as *satisfaction* (Casalao et al. 2011 and Zhao et al. 2012) are not tools the company can strategically use to facilitate the antecedents of participation.

As this argument applies to all 37 variables influencing the antecedents, and none of them are included in the research model, I do not present a thorough discussion of every single one of them. However, I do include a table (table 7) of all the identified variables. In the table, I first list the antecedents included in the research model. As I do not identify any variables

influencing the antecedent sense of partnership with company, that antecedent is excluded from the table. Next, I list studies that test the antecedent, or similar or related antecedents. Then I list the identified variables before I finally list the term the researchers use for the antecedent of participation.

	Study	Variable influencing the antecedent	Antecedent
Hedonic benefits	Nambisan and Baron (2009)	Product content	Hedonic benefits
	Nambisan and Baron (2009)	Human interactivity	Hedonic benefits
	Füller et al. (2010)	Experienced tool support	Experienced enjoyment
	Zheng et al. (2011)	Autonomy	Intrinsic motivation
	Zheng et al. (2011)	Variety	Intrinsic motivation
	Zheng et al. (2011)	Analyzability	Intrinsic motivation
Learning benefits	Nambisan and Baron (2009)	Product content	Learning benefits
Personal integrative benefits	Nambisan and Baron (2009)	Member identity	Personal integrative benefits
	Roberts et al. (2006)	Extrinsic motives	Status and opportunity motives
	Yen et al. (2011)	Effectiveness of online community management	Self-enhancement
Social integrative benefits	Nambisan and Baron (2009)	Product content	Social integrative benefits
	Nambisan and Baron (2009)	Member identity	Social integrative benefits
	Nambisan and Baron (2009)	Human interactivity	Social integrative benefits
	Bagozzi and Dholakia (2006)	Identification with open source movement	Social identity
	Casalao et al. (2013)	Perceived similarity	Integration
	Casalao et al. (2011)	Trust	Affective commitment
	Casalao et al. (2011)	Satisfaction	Affective commitment
	Chang et al. (2013)	Interpersonal needs	Identification with community
	Chang et al. (2013)	Need for information	Identification with community
	Chang et al. (2013)	Need for activity	Identification with community
	Dholakia et al. (2004)	Group norms	Social identity
	Dholakia et al. (2004)	Purposive value	Social identity
	Dholakia et al. (2004)	Entertainment value	Social identity
	Jin Xiao-Ling et al. (2010)	User satisfaction	Affective commitment
	Jin Xiao-Ling et al. (2010)	Positive disconfirmation of purposive value	Affective commitment
	Phang et al. (2009)	Social interactivity	Perceived sociability
	Phang et al. (2009)	Perception of moderator	Perceived sociability
	Shen et al. (2010)	Affective social presence	Social identity
	Shen et al. (2010)	Cognitive social presence	Social identity
	Tsai and Pai (2014)	Cognitive social identity	Affective social identity
	Tsai and Pai (2014)	Cognitive social identity	Evaluative social identity
	Yoon and Rolland (2012)	Familiarity	Perceived relatedness
	Zhao et al. (2012)	Familiarity	Sense of belonging
	Zhao et al. (2012)	Trust	Sense of belonging
	Zhao et al. (2012)	Perceived similarity	Sense of belonging
	Zhou et al. (2013)	Viewing posts	Perceived social value
	Attitude towards the host firm	Nambisan and Baron (2007)	Customers' affective evaluation of interaction experience in the community

TABLE 7: VARIABLES INFLUENCING THE ANTECEDENTS OF PARTICIPATION

In retrospect, I realize that, although measured by the consumers' experiences and perceptions, the variables *experienced tool support* (Füller et al. 2010), *extrinsic motives* (Roberts et al. 2006), and *perception of moderator* (Phang et al. 2009) could have been tested as facilitators. *Experienced tool support* (Füller et al. 2010) relates to how well the consumers

feel that the provided tools enable them to carry out the community tasks. Hence, the company should and could ensure that the tools it provides really do support the community members in performing their tasks. Likewise, Roberts et al. (2006) operationalize *extrinsic motives* as payment the consumers receive for their contributions. The company must decide if, and how much, it wants to pay the consumers for their efforts. Finally, the company should moderate the community in such a way that the community members gain a positive *perception of the moderators* (Phang et al. 2009).

2.5 Preliminary research model

Figure 1 is the preliminary research model. As the model indicates, I hypothesize how the different antecedents influence participation (hypotheses 1 – 6).

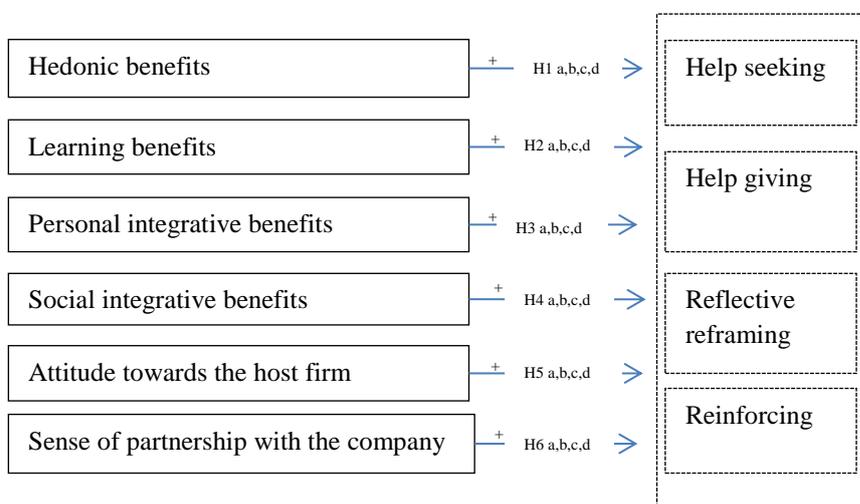


FIGURE 1: PRELIMINARY RESEARCH MODEL

The preliminary research model depicts participation in online communities for customer support in a more complex manner than previous research (Nambisan and Baron 2007, 2009, 2010). As I identify different forms of participation, in this dissertation I quantitatively test

how the antecedents influence the different forms of participation rather than how the antecedents influence participation in general. For example, I test how *hedonic benefits* influence *help seeking*, *help giving*, *reflective reframing*, and *reinforcing*. As a result, each hypothesis consists of four sub-hypotheses; a, b, c, and d.

This model may still fail to provide a complete picture, giving rise to additional questions. As my literature review shows that research on participation in online communities for customer support is limited, it is possible that additional antecedents exist that have not yet been identified. Furthermore, I want to understand how companies can facilitate the antecedents and thereby indirectly stimulate participation, but I was not able to detect any possible facilitators from my literature review. My exploratory study of real online customer support communities addresses this gap in the literature. In the following chapter I identify new antecedents that are overlooked in previous research, and I identify facilitators of the antecedents. The findings from this exploratory study, integrated with the preliminary research model based on the literature review, enable a more real-life observation of online support communities.

3.0 EXPLORATORY STUDY, ADDITIONAL HYPOTHESES, AND EXTENDED RESEARCH MODEL

As consumer participation in online communities for customer support is a relatively new phenomenon to study (e.g., Nambisan and Baron 2009), an exploratory study can reveal novel and perhaps unexpected insights (e.g., Kozinets 2010). Furthermore, an online exploratory study allows me to follow the communities over time, and to gain easy access to authentic statements made by actual participants in the forums (ibid.). Finally, by observing and studying the online community over time, I am able to get a better understanding of the dynamics and the relations in the community (ibid.). In this chapter I outline the methods I applied, I analyze the qualitative findings and suggest additional hypotheses, and I propose an extended research model of participation in online communities for customer support.

3.1 Method

In this section, I first present the two cases. Then I discuss my data collection process in relation to suggested ethical guidelines. After that, I outline how I collected online archival data and conducted interviews. Finally, I describe the coding of the data and how I identified overarching and reoccurring themes.

3.1.1 The cases

The cases for the exploratory study are two online communities for customer support, one of which is also the case for the quantitative testing of the research model.

The communities are set up, organized, and controlled by two European telecommunication companies who are both major players within their domestic markets. The purpose of the communities is to let consumers help each other with problems related to the products and services provided by the company. Instead of contacting customer service when they face a problem, the consumers log on to an online forum to search for possible solutions and to post their questions. Other consumers voluntarily help by answering the questions. Both forums have a team of one forum manager and several helpers and moderators. The forum manager is responsible for the forum, and handles more serious issues or situations that the helpers and moderators are unable to solve. The moderators are active 24/7 and read everything that is posted on the forum. They decide if the customers might need assistance from helpers, or if the posts need to be edited or removed. The helpers are named differently in the two forums, but their tasks are the same: their job is to follow up and answer questions that the consumers are not able to answer.

The two communities can be seen as revelatory cases (Yin 2009) rich in recent and regular content relevant for my research questions, generated by high community activity since they were launched around 2010. As of today, the forum of company A has over 460,000 posts, while the forum of company B has approximately 640,000 posts. Both forums also have many active members, where the most active ones have posted more than 5,000 posts each. Some of the posts on the forums are rather brief with a simple question followed by short posts with answers, but most posts contain much text and are rich in content. Finding a large number of posts with rich and relevant content is significant for conducting meaningful interpretations (Kozinets 2010).

3.1.2 Research ethics

In the process of collecting the archival data and conducting the interviews, I followed Kozinets' (2010) guidelines for conducting ethical online research. Since the forums I explore are commercial online communities, I consulted the managers of the two forums, and they allowed me to conduct research on their communities. I have been in touch with the forum managers multiple times, and they later gave interviews as well as putting me in touch with the consumers, helpers, and moderators I interviewed. In addition to granting access, this arrangement also means that the different parties – the forum managers, the moderators, the helpers, and the consumers – were offered a chance to give their perspective on the topics addressed by this study, and thereby influence how the support communities are presented in this research (Kozinets 2010).

Regarding confidentiality, I conducted this study in line with what can be defined as medium cloaking (Kozinets 2010): I do not reveal the names of the support communities or the names or pseudonyms of the community members, but I include real quotes from the communities. In my analysis, the forums are named company A and company B, customers are presented as “forum member”, forum managers as “forum manager”, the moderators as “moderator”, and the helpers as “helper”. As I include quotes from the online discussions, it is possible to trace the quotes from the online archival data back to the original thread and to the pseudonym of the one making the post by using a search engine. However, I make sure not to use any quotes that could be potentially harmful or embarrassing to the person that posted it. Furthermore, the forums I study are open for anyone to visit. As a result, anyone can see what is posted on the forums; it is not necessary to log in to do so. Since the forums are open, the content can be classified as public (Kozinets 2010). Therefore, when it comes to privacy, this content can be

seen as being in line with, for example, interviews given on radio, on TV, and in newspapers, or as letters to the editor (ibid.).

3.1.3 Collecting online archival data

My most important source of qualitative data is online archival data, which I copied from existing communications between participants in the online communities (Kozinets 2010). This approach is inspired by netnography (Kozinets 2010). *Netnography* can be defined as online ethnography in which the researcher applies a combination of participative and observational techniques, and undertakes an immersive, prolonged engagement with the members of the online community (ibid.). However, I limited my participation to collecting online archival data rather than involving myself in the community. First, this approach enabled me to retrieve authentic information unaffected by my presence as a researcher. Prior to collecting the data, I gained the forum managers' consent to study the forums, but the consumers were not informed about my presence. Furthermore, the given time frame, my lack of technical knowledge of the topics discussed, and the fact that I am not a customer of either of the two companies would have made it difficult for me to become a legitimate member of the communities.

I collected online archival data by analyzing discussion threads in the two online communities. The selected threads are units of analyses within the holistic cases (Yin 2009), the communities, I explored. For both communities, I studied all the different sub-forums by browsing through hundreds of threads trying to identify threads that are rich in content relevant for my research. To ensure sufficient content in the threads, I also aimed at choosing threads containing at least 10 posts, making one exception for an interesting thread with only 8 posts. Each thread contains all the posts written since the day it was started, which allowed

me to follow the development in the discussions over time. For example, one of the threads I studied was active for four months, while another for three weeks. As tables 8 and 9 show, I selected 12 threads from company A and 10 threads from company B. On average, the selected threads contain 33 posts each. In total, I downloaded and carefully analyzed 580 posts from company A, resulting in 458 transcribed pages to interpret. I downloaded and analyzed 155 posts from company B, equivalent to 162 transcribed pages to interpret.

As part of collecting online archival data, I also noted my considerations and thoughts regarding the community, the members, and the interactions between the members. These interpretations were based on both textual and visual data. Interpretations of the visual aspects of the forum become especially important in this regard because several interesting aspects are not purely text based. These aspects relate, for example, to the use of pictures, avatars, signatures, and different font sizes and colors, which are important to analyze in order to gain a full understanding of the meaning behind the posts. For all posts, I have preserved the original text without correcting typos and misspellings.

SOURCE	PAGES TRANSCRIBED	NUMBER OF POSTS
Thread 1	24	24
Thread 2	17	30
Thread 3	34	31
Thread 4	19	27
Thread 5	36	32
Thread 6	85	164
Thread 7	135	107
Thread 8	23	41
Thread 9	44	66
Thread 10	20	38
Thread 11	10	8
Thread 12	11	12
Total	458	580

TABLE 8: ONLINE ARCHIVAL DATA COMPANY A

SOURCE	PAGES TRANSCRIBED	NUMBER OF POSTS
Thread 1	9	17
Thread 2	12	10
Thread 3	15	13
Thread 4	28	10
Thread 5	13	12
Thread 6	7	13
Thread 7	9	11
Thread 8	30	28
Thread 9	19	11
Thread 10	20	30
Total	162	155

TABLE 9: ONLINE ARCHIVAL DATA COMPANY B

3.1.4 Interviews

Based on the findings from the online archival data, I conducted interviews with the forum managers of the two forums as well as with moderators, helpers, and consumers. The interviews were based on a semi-structured interview guide consisting of topics of interest informed by the literature review and the study of the online archival data. I developed one interview guide for the forum managers, one for the helpers, one for the moderators, and one for the forum members (see appendices 2 – 5 for interview guides). I discussed the interview guides with other researchers in advance. The interview guides were also restructured and updated with rephrased and additional questions after the first interviews, allowing better conversations with the interviewees. Interviews were conducted via email or Skype. For all the Skype interviews, interviewees granted permission to record the conversations.

I conducted the interviews during the fall of 2011. I interviewed the forum managers of the communities of company A and company B via Skype. Both interviews lasted for 50 minutes, and resulted in 19 and 12 pages of transcribed data respectively. The forum managers were instrumental in setting up contact with moderators, helpers, and consumers who were willing to participate in the research. Beforehand the interviews, I presented the forum managers with the questions I had planned for the other respondents, ensuring that I had the forum managers' consent to carry out the rest of the interviews.

In order to make it easy for the other respondents to participate, I gave them the option to participate via e-mail or via Skype. For company A, one of the customers participated via Skype, resulting in an interview lasting 35 minutes and generated 11 transcribed pages. I conducted the rest of the interviews in company A via e-mail. I interviewed two moderators,

resulting in two transcribed pages for each interview. Three helpers also participated; two of the interviews resulted in two transcribed pages each, and one interview resulted in three transcribed pages. I also conducted two e-mail interviews with consumers, resulting in four and six transcribed pages. Including the interview with the forum manager, I collected 51 transcribed pages from interviews in company A.

For company B, one moderator chose to participate via Skype, resulting in an interview lasting 1 hour and 40 minutes that generated 27 transcribed pages. I interviewed three consumers via e-mail, resulting in two interviews of six transcribed pages and one interview of four transcribed pages. Including the interview with the forum manager, the interviews from company B resulted in 55 transcribed pages. Tables 10 and 11 provide details about the different interviews and interviewees of Company A and Company B, respectively.

SOURCE	TECHNIQUE	LENGTH OF INTERVIEW	PAGES TRANSCRIBED	MEMBER SINCE	MESSAGES POSTED	KUDOS RECEIVED
Forum Manager	Skype interview	50 minutes	19			
Moderator 1	e-mail interview		2			
Moderator 2	e-mail interview		2			
Helper 1	e-mail interview		2			
Helper 2	e-mail interview		3			
Helper 3	e-mail interview		2			
Customer 1	e-mail interview		4	10-23-2008	4362	1116
Customer 2	Skype interview	35 minutes	11	05-06-2009	2853	1346
Customer 3	e-mail interview		6	10-09-2010	2640	1208
Total			51			

TABLE 10: INTERVIEWS COMPANY A

SOURCE	TECHNIQUE	LENGTH OF INTERVIEW	PAGES TRANSCRIBED	MEMBER SINCE	MESSAGES POSTED	KUDOS RECEIVED
Forum Manager	Skype-interview	50 minutes	12			
Moderator 1	Skype-interview	100 minutes	27			
Customer 1	e-mail interview		6	08-17-2009	1556	214
Customer 2	e-mail interview		4	06-20-2010	5328	634
Customer 3	e-mail interview		6	01-28-2010	6443	1055
Total			55			

TABLE 11: INTERVIEWS COMPANY B

I do not have many interviews, and the transcripts of the e-mail interviews are relatively short.

However, the interviews are meant to supplement the findings from the study of the online

archival data. Combined with the online archival data, the interviews offer a sufficient amount of data to conduct an insightful analysis.

To further verify the data and to gain a better understanding of the findings, I interviewed the CEO and one of the strategists of a company specializing in helping companies to set up online forums. I also had conversations and meetings with a third telecommunication company that at the time of writing is about to set up its own customer support forum. Finally, I attended a major European practitioner conference for companies involving consumers in the company's activities, and discussed the research with several of the participants there. I do not quote or directly use these additional sources of information in the study. However, they have directed my attention to particularly interesting topics, resulting in a more critical perspective on parts of the initial findings and conclusions and it helping me to achieve much richer and deeper insights in online communities for customer support.

3.1.5 Data analysis – Coding

Some of the codes I applied in this study are topic-based (Spiggle 1994) and reflect patterns of interesting, reoccurring themes. These codes emerge when reading the data rather than being imposed by prescribed categories (Miles and Huberman 1994). Most of my coding, however, was done as analytical coding. Analytical coding relates to theory and uses more sense-making, reasoning, abstraction, and established concepts (ibid.). I developed analytical codes based on the findings from the literature review and my work with the preliminary research model. I applied 37 different codes (available in appendix 6, table B). During my initial examination, the most common codes were used more than hundred times, proving to be too wide. Other codes were not used much. Some codes also proved to be irrelevant and thus impossible to use for further analysis. As a consequence the coding turned out to be a

two-stage process; upon starting to synthesize the coded material, it was necessary to go back and develop more detailed and relevant codes to allow more meaningful and structured analysis of the data.

Using the software Atlas.ti made it easy to code the data and to add information and comments for each code. When the data are coded, it is possible to rapidly move through the text and search for relevant codes, find the parts of the data I am searching for, and compare different parts of the text. Furthermore, the software allows the user to include pictures and other visual elements. For example, if a post includes text, pictures, different font sizes, and different font types, all details are displayed and saved by the software. This enabled me to interpret elements other than just plain text and thereby gain an even deeper understanding of the meaning of the post. Also, the software has a useful memo-function, which allowed me to save my own comments and interpretations. Finally, since my data collection resulted in a large amount of data, using computer-aided software makes storing and organizing the data more convenient.

3.1.6 Data analysis – Identifying overarching themes

After coding the data, I followed a hermeneutic analysis approach (Thompson 1997, Thompson et al. 1994) to identify overarching and recurring themes across time, across threads, and across respondents. Hermeneutic interpretation involves seeing personal meanings expressed by individuals as manifestations of a broader cultural system of meanings shared by the members in the society (Thompson 1997, Thompson et al. 1994). When interpreting the collected data, I did not perceive the different viewpoints and meanings as isolated incidences. Rather, I used them as examples of broader and more general tendencies common among the members on the forum. Instead of counting the numbers of different

incidences, as in quantitative research, I grouped similar incidences into categories, and I use one or two quotes as examples illustrating the finding.

3.2 Analysis and additional hypotheses

In this section, I analyze the findings from the exploratory study based on the insights from the literature review. However, as the findings from the exploratory study are new to theory on online communities of customer support, I also draw on other relevant theory in order to provide deeper analyses. In the following I first suggest that *anonymity* can be an additional antecedent of participation. Then I propose that *personal integrative benefits facilitators* influence *personal integrative benefits*, and that *personal integrative benefits* hence becomes a mediator between *personal integrative benefits facilitators* and participation. After that I discuss how *friendship with company employees* can influence *social integrative benefits*, and that *social integrative benefits* thus become a mediator between *friendship with company employees* and participation.

3.2.1 Anonymity as an additional antecedent of participation

The exploratory study suggests that *anonymity* could positively influence the extent of consumers' participation in the online community for customer support, as it could make it easier for people to dare to ask questions and increase their willingness to propose answers. In this regard *anonymity* does not mean that the consumers are invisible. Rather, they can choose their username, they can hide some or all of their identity, and they can even alter their identities (Suler 2004).

Research shows that *anonymity* can have an effect on how people interact online (e.g., Suler 2004, Huerta et al. 2012, Qian and Scott 2007). Suler (2004) refers to this phenomenon as the *online disinhibition* effect, which consists of benign disinhibition and toxic disinhibition (ibid.). Benign disinhibition refers to an increased tendency to reveal secret emotions, fears, and wishes, as well as to show unusual kindness, generosity, and a strong will to help others (ibid.). While benign disinhibition relates to positive outcomes of *anonymity*, toxic disinhibition relates to more negative outcomes: rude language, harsh criticism, anger, hatred, and threats (ibid.). In my exploratory study, I find several examples of both toxic and benign disinhibition.

The thread “Liars liars you are now messing with my life” is a clear example of toxic disinhibition (Suler 2004) on the online support community of company B. The forum member uses rude language, he is harsh in his criticism against the company, he is extremely angry, and he even says that he hates the company. The forum members starts with a long explanation of what he perceives the problem to be, how the company has been unable and unwilling to solve the problem, and how the company actually is affecting his life by not helping him. Then he makes several demands that the company has to fulfill if he should continue to be a customer. Finally he concludes the post by saying the following:

[COMPANY NAME] IS THE WORST SERVICE IN THE WOLD STAY AWAY STAY AWAY STAY AWAY. I GOT PROMISED BY A SERVICE TECHNITIAN THAT THIS HAS BEEN SORTED BUT TODAY WE HAVE HAD A DAY WITHOUT THE INTERNET AGAIN. I'M AT THE POINT OF HATE, I HATE [COMPANY NAME] AND ALL IT STANDS FOR. I THINK THEY ARE THE WORST COMPANY AND I AM ABOUT TO CANCEL MY DIRECT DEBITS WITH THEM, THEY HAVE WASTED MY TIME AND MONEY AND HAVE MADE SURE OUR LIVES HAVE BEEN DISRUPTED. (Quote from support community, Company B).

Despite the extremely negative post, the forum member actually receives responses from several other forum members who try to help him. Rather than thanking them and trying to do what they propose, he fires back at them. This kind of behavior would normally not be accepted in a face-to-face situation. However, being anonymous and interacting in an online setting, the forum member dares to reveal his frustration and anger. One of the forum managers I interviewed confirms this phenomenon, and explains that he thinks *anonymity* leads to more negative and aggressive content on the forum. Often, he says, people are very angry when they log on to the forum, and feel a strong need to let their feelings out. Although they are not necessarily upset with others on the forum, people use the forum as a place to vent their frustration with the company. Being able to hide behind pseudonyms not linked to their real names makes it easier to engage in angry outbursts than they would if forced to reveal their real identities.

Anonymity can often cause issues where people think they can say whatever they want. If they're coming on to the forum with a problem, they're already angry. They're not using their real names, they're using pseudonyms. They're registered with an e-mail address that we've got no chance to identify, so they think that they've got the right to say whatever they want (Interview with Forum Manager, Company B).

As the excerpt from the online discussion indicates, and as the quote from the forum manager confirms, online anonymity can cause toxic disinhibition (Suler 2004) in the form of negative content in the community. However, it is difficult to determine whether people would still post and be more polite if they were not anonymous, or if they would not post at all. If the latter is the case, this finding could imply that *anonymity* not only causes aggressive and negative content on the forum, but it can also lead to more content and participation in the online community.

The exploratory study also provides examples of benign disinhibition (Suler 2004). As Suler (2004) explains, benign disinhibition implies that people dare to reveal emotions, fears, and wishes. Similarly, Qian and Scott (2007) find that discursive *anonymity*, defined as withholding personal information such as name, e-mail, gender, and location, increases self-disclosure. Self-disclosure in this regard relates to the tendency to reveal personal information, thoughts, and feelings to others, which consumers often perceive as risky as it can invite ridicule and even rejection from people they know (ibid.). However, if people are anonymous and interact with strangers, self-disclosure becomes less risky: what they share under these conditions cannot be traced back to their real identities and thereby impact their lives (ibid.).

I think it's very important to remain anonymous to begin with as it gives you the comfort of being able to ask anything, however daft, without people knowing who you are (Interview with Forum Member, Company A)

Although the quote does not reveal personal and particularly embarrassing secrets (e.g., Suler 2004, Qian and Scott 2007), it shows that being anonymous can make it easier for people to ask questions without being afraid of embarrassment. If forum members were forced to show their real names, they might be more reluctant to post questions. This finding implies that *anonymity* might contribute to increased activity on the forum by making it easier for people to post questions.

Benign disinhibition also relates to an increased willingness to help others (Suler 2004), suggesting that *anonymity* could result in more helpful answers on the online community for customer support. At the same time, Huerta et al. (2012) find that *anonymity* influences

people's intention to share not only success but also failures and negative information. Related to online support communities, this understanding could imply that *anonymity* not only makes people less afraid to ask stupid questions, as the quote above shows, but it could also make people less afraid of embarrassing themselves by proposing possible wrong answers. In other words, being anonymous helps people feel safe to suggest a solution even though they might not be completely sure they are right. One of the forum members I interviewed explains how *anonymity*, in addition to setting the bar lower for him to propose solutions, also makes him feel more comfortable when interacting with others to help them out in the community:

Anonymity means that you can stick to the point. Only your forum reputation and the quality of your reply matters. Your age, gender, race, whatever else that might cloud personal face interactions, does not get in the way. It also protects people's privacy - they sometimes reveal details of personal circumstances, like marital separation, when discussing email account problems; I don't want to know who they are. They could be my neighbor, or a friend of a friend of a friend - it doesn't matter if they remain anonymous (Interview with Forum Member, Company B).

The forum member explains that *anonymity* makes it easier for the one with the problem to focus on the solution provided rather than being disturbed, annoyed, or upset by characteristics of the one offering help. The things that matter are the offered answers and solutions. He explains that, at the same time, *anonymity* helps the one reaching out to focus on the relevant problem without getting affected by the person asking the question. As the forum member argues, *anonymity* makes the interaction better both for the ones providing help and for the ones asking for help, strengthening the assumption that *anonymity* influences participation in the help and support community.

As my findings as well as established theory (e.g., Huerta et al. 2012, Qian and Scott 2007, Suler 2004) imply that *anonymity* makes it easier both to make negative and aggressive posts on the forum as well as to make positive contributions in the form of asking questions and proposing suggestions, I hypothesize that *anonymity* positively influences participation in the online community for customer support.

Hypothesis 7: Customers who believe that they are anonymous are more likely to participate in the online community for customer support.

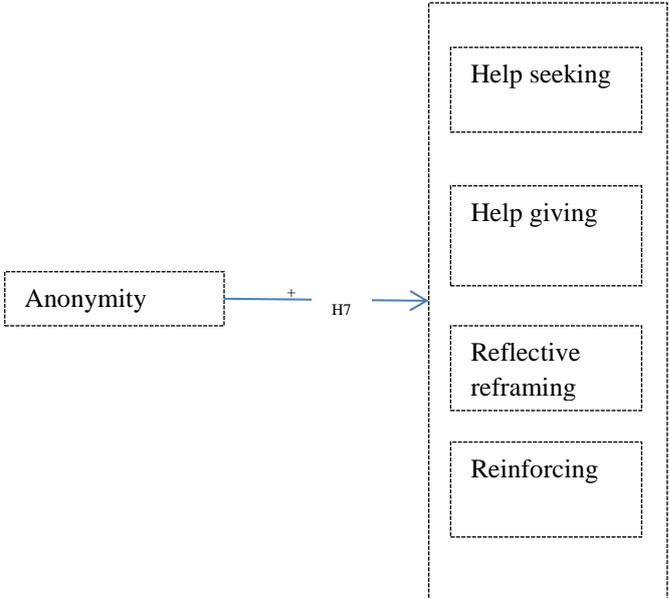


FIGURE 2: ANONYMITY INFLUENCES PARTICIPATION

3.2.2 Facilitators for personal integrative benefits

Nambisan and Baron (2007, 2009, 2010) find that the possibility to gain status on the forum influences people’s participation in the online support community. This finding is well in line with research on consumer communities (e.g., Muniz and O’Guinn 2001, Schouten and McAlexander 1995, Cova and Cova 2002), which shows how members strive to achieve

higher status and recognition in the community. Schouten and McAlexander (1995) find strict hierarchies within the Harley Davidson subculture, where different members enjoy different levels of status. Many of the members aspire to achieve higher status, and use different physical artifacts as social tools to visualize and emphasize their rank within the hierarchy. Different products and artifacts provided by the Harley Davidson Company help the members to display their status and to gain recognition within the community (ibid.).

Whereas the Harley Davidson Company provides the community members with physical products and artifacts (Schouten and McAlexander 1995), my exploratory study reveals how the two companies I examine provide facilitators that help members build, visualize, and emphasize their status within the online support community. The four facilitators that appear to be most commonly used by the two companies are: enabling kudos, enabling members to mark a *correct answer*, granting members gradually more prestigious titles, and thanking members openly on the forum.

The first type of facilitator provided by the two companies is kudos. In order to give kudos to a specific member, forum members as well as the company can press a dedicated button appearing next to every post on the forum. Pressing the kudos-button gives kudos to the person who has written the post. The kudos are clearly displayed on the members' profiles, and show up along with the members' avatars when they interact on the forum. In addition, the five forum members with top kudos points have their profiles displayed on the forum's front page.

The second type of facilitator is the ability to mark correct answers. Like kudos, the correct answer is a button next to every post on the forum. Only the person who started the thread can

push this button. As a result, the ability to mark a correct answer is a way for the one asking a question to thank the person that offered the solution to the problem. The number of correct answers provided by a person is displayed in the same way as their kudos number.

The third type of facilitator is to provide the community members with increasingly higher levels of titles as they climb the hierarchy of the community. The community members do not know how much it takes to reach a certain level, but are automatically granted more prestigious titles. The level of title is based, among other criteria, on how many times members are awarded kudos and helpful answers as well as how many posts they have made.

These first three facilitators for *personal integrative benefits* are highly valued by the consumers in the community, something both the consumers themselves and the employees of the company confirm. Kudos, helpful answers, and titles have a clear effect on the activity on the forum, as the forum members are constantly trying to improve their status. This quote from the interview with one of the forum managers illustrates this point very well:

As soon as we introduced those features within the [Platform Provider Name], they became almost obsessed with it. (...) So that definitely appeals to the kind of people that we want to attract to the forum (Interview with Forum Manager, Company A).

As the forum manager explains, providing ways in which people can display their status in the community attracts people to participate. The forum members are eager to achieve kudos, helpful answers, and higher titles, and the only way for them to achieve these honors is to contribute to the forum by helping other people with their problems. The forum members themselves also talk about how important these facilitators are for their standing in the

community. One forum member says that in addition to enjoying solving problems, he appreciates the recognition he gets from others when he is able to help them:

I intrinsically enjoy solving problems, and it is also nice to receive recognition from people when their problem is solved (Interview with Forum Member, Company B).

Both this quote, and the quote from the forum manager above, indicate that by actively contributing to the community and thereby earning kudos, correct answers, and prestigious titles, the forum members are able to signal that they occupy a significant space in the community (Cova and Cova 2002) and that they are on a high level in the social hierarchy in the community (Schouten and McAlexander 1995).

Another forum member explains how status and recognition are closely related to people's skills and expertise regarding the products and services discussed on the forum:

Titles and kudos are important because they let you know that you have helped someone, and by building your reputation it increases your voice, so other people will trust that you know what you are talking about. So I think it helps both parties (Interview with Forum Member, Company B).

A prestigious title alongside a high number of kudos and correct answers prove that the one helping out is a true and legitimate (Muniz and O'Guinn 2001) member of the community: he or she knows the products and the services and is skilled and competent to solve problems. The forum member argues that this visible legitimacy of the one helping not only contributes to his or her status in the community, but it is also beneficial for the ones looking for assistance, as it helps them sort out who is willing and competent to solve their problem.

The fourth type of facilitator of *personal integrative benefits* is thanks from the company.

While kudos and helpful answers are rewards the forum members can give each other, thanks from the company is obviously given only by the company. The companies often make posts to publicly thank specific members for their contributions and give them credit for their insights and knowledge. Through these posts, the members receive visible recognition from the company, which contributes to legitimizing (Muniz and O'Guinn 2001) their standing as knowledgeable and skilled members of the community.

Hi [Name Problem Poster] Firstly, a very warm welcome to the eForum Family, it's always great to see new faces on here. The information given by [Name Problem Solver] is spot on, thanks again [Name Problem Solver] Further information on network unlocking can be found on the [Network Unlock Code](#) page in our Help Centre (Quote from support community, Company A).

This post shows how the company representative helps a forum member with his or her problem. Most importantly, it also shows how the company representative thanks the forum member who is trying to solve the problem. In this way, the company is able to give credit to the forum member helping out by thanking her for her efforts, and stating that she is right. For some forum members, recognition from the company might even be more legitimate and important than recognition from peers (Jeppesen and Fredriksen 2006). Getting thanks directly from the company, which can be expected to know the products and the services even better than the other community members, is therefore often more powerful for building one's online status and recognition than kudos and correct answers from peers.

To summarize, the exploratory study shows that using the four facilitators for *personal integrative benefits* – kudos, correct answer, titles, and thanks from the company – enables the

company to strengthen people's status and recognition on the forum. Thus I propose the following hypothesis:

Hypothesis 8a: Facilitators for personal integrative benefits are positively related to personal integrative benefits.

Personal integrative benefits are proven to influence participation on the forum (Nambisan and Baron 2007, 2009, 2010), indicating that companies could stimulate participation through *personal integrative benefits* by providing facilitators for *personal integrative benefits*. The *personal integrative benefits facilitators* are not likely to influence participation directly, rather, the facilitators are meaningful to the consumers because the facilitators lead to increased status and recognition on the forum. The facilitators as such do not have any meaning to the consumers if not related to *personal integrative benefits*. For example, people strive to earn a high number of kudos because it gives them higher status on the forum, not because the kudos by itself is valuable to them. This leads to hypothesis 8b:

Hypothesis 8b: Personal integrative benefits mediate the effects of facilitators for personal integrative benefits on participation.

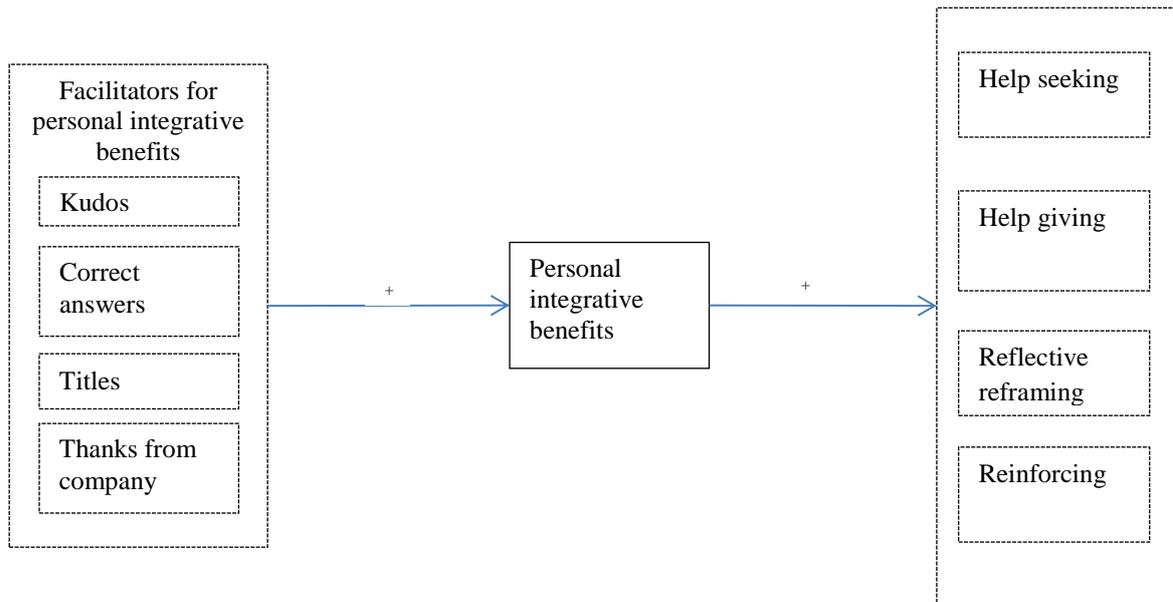


FIGURE 3: PERSONAL INTEGRATIVE BENEFITS MEDIATE THE EFFECTS OF FACILITATORS FOR PERSONAL INTEGRATIVE BENEFITS ON PARTICIPATION.

3.2.3 Friendship with company employees facilitate social integrative benefits

Nambisan and Baron (2007, 2009) find that *social integrative benefits* influence people to participate in online communities for customer support. *Social integrative benefits* relate to benefits community members expect to achieve in regard to, for example, expanded personal and social networks, stronger affiliation with the community, and enhanced sense of belonging to the community (ibid.). The findings from my exploratory study indicate that the companies actively and deliberately seek to help people to achieve *social integrative benefits* by building friendships with the consumers in the community. If so, *social integrative benefits* mediate the relation between *friendship with company employees* and participation.

Friendship with company employees is different from *sense of partnership with the company* (Nambisan and Baron 2010), as *sense of partnership with the company* has to do with the customers' perceptions of ownership of the process, the extent to which they feel they get quick feedback from the company, and their understanding of how their efforts are

contributing to the company (ibid.). *Friendship with company employees* is rather more similar to commercial friendships (e.g., Grayson 2007, Price and Arnould 1999). Price and Arnould (1999) propose the construct of commercial friendship to describe friendships between customers and employees of companies in a service setting. They (ibid.) find that commercial friendships, like other friendships, involve affection, intimacy, social support, loyalty, and reciprocal gift giving.

In both the online discussions and the interviews, I find many examples of how the company employees build friendships with the consumers in the community. The excerpt from the thread “GalaxyS Poll Name Change” is a good example of informal and friendly communication between forum members and one of the company employees (here the forum manager). The discussion concerns whether the company should allow a separate section dedicated to one specific cellphone model, or if these discussions should continue to be part of a larger section devoted to several models of the same cellphone brand. To reach a conclusion, the forum manager sets up a poll where the consumers can vote whether or not they would like a separate section. To illustrate the richness of the language in the thread, I have copied one of the quotes directly from the forum. To save space, I have copied just the text for the rest of the quotes I use.

BIG thanks to **[FORUM MANAGER NAME]** for setting up this POLL. ([Forum Member Name] style, lol 😊)
Also to [Forum Member Name] for the idea of a name change.

If you don't vote... Don't Moan...!

(Quote from support community, Company A)

The discussion continues:

[Forum Member Name]: “We shall keep an eye on it, [Forum Manager Name], we know you’re split on this with an Apple Device and an Android. But I still think we need separate sections with in the Samsung Galaxy Series”

[Forum Manager Name]: “I could just be lying about having an Android phone too, [Forum Member Name].”

[Forum Member Name]: “Narrrr you’re human and have a sense of hummour so you must be an Android user”

[Forum Manager Name]: “I’m going to set "Sent from my iPhone" as my signature, just for you [Forum Member Name]. P.S. Everybody, when you mention forum apps I just put my fingers in my ears, close my eyes and go "LALALALALA!" I promise it's being worked on, but won't be for a good while yet. It will come, but please be patient! (Quote from support community, Company A).

The language in the thread indicates that the forum manager and the consumers know each other. The consumers use the forum manager’s real name, and write it in large red capital letters, often followed by several exclamation marks or question marks. Selected words are written with bold, capital letters. Furthermore, various emoticons are widely used. The thread also shows how the forum members and the forum manager often use irony, refer to each other in a friendly tone, are in on each other’s jokes, and make fun of each other. By being friendly and using the same language as the forum members, the forum manager shows that he participates on equal terms with the community members (e.g., Muniz and O’Guinn 2001), that he is “a regular guy”, and that they are part of the same group. He also shows that he knows and understands the cultural code and context of the forum (Pralhad and Ramaswamy 2004).

One of the forum members I interviewed reveals that, in addition to using an informal and friendly language, the forum manager joins them on other, separate platforms. This, he explains, helps the members to feel like being part of a group of friends. In this way, the forum manager is able to further strengthen the forum members' affiliation with and sense of belonging to (Nambisan and Baron 2007, 2009) the community.

I think [Forum Manager Name]'s willingness to join with people on a social and work level via email or social networking is a fantastic way of giving members ownership of the [Forum Name]. You feel as if you belong to a group of Friends, rather than just an information Centre" (Interview Forum Member Company A).

The forum member explains that, by interacting on platforms outside the official help and support community, the forum members and the forum manager can discuss things that are not necessarily relevant for the official forum, and they can get a chance to know each other more personally. By joining the community members in this way, the forum manager is able to help the community members to strengthen their attachment and commitment to the community and helps them feel that they belong to a group of friends.

Interacting with the community members in a friendly way and building friendships with them could seem like a random approach. However, these actions are deliberate strategies of the companies. One of the forum managers says that building friendships with the forum members is one of his most important tasks as a forum manager. He explains how he attempts to take a personal approach when communicating with the forum members:

So when I start speaking with someone, I'm formal but friendly. And then I really try and build a personal relationship with them after that point. So I will share with them details about myself, if

they're interested in them. Or I will ask them questions about themselves, find common ground, so talk about things that aren't related to the forum. I find out what kind of music they listen to, what football team they support, and those kinds of things. So you build a friendship with them rather than a working relationship (Interview Forum Manager Company A).

One of the moderators explains why building friendships with the consumers and the most active consumers, the superusers, in particular is so important:

The superusers are the bread and butter of the community. The rest of the users will ask questions, but they don't keep the community going. You need the superusers. If you don't have superusers, the community will die out" (Interview Moderator Company B).

For the forum to be successful, the moderator explains, it needs to have people asking questions and demanding help from others, but it also needs the superusers who contribute with answers and help the others. Helping the superusers to develop a strong affiliation with and sense of belonging to the community is therefore quintessential in order to ensure that the superusers remain active on the forum over time.

Based on these findings, it seems that the company is building friendships with the consumers in the community in order to help them to achieve *social integrative benefits* in the form of expanded personal and social networks, stronger affiliation with the community, and an enhanced sense of belonging to the community. This leads to hypothesis 9a:

Hypothesis 9a: Friendship with company employees is positively related to social integrative benefits.

As with facilitators for *personal integrative benefits*, neither my qualitative findings nor established theory indicates that *friendship with company employees* as such motivate people

to participate in the community. People do not participate because they expect to build friendships with the employees in the community; by itself, this is not important to them. Rather, the exploratory study shows that friendships with the employees can help people to be introduced to other community members, to feel like a member of the community, and to find social belonging in the community. At the same time, Nambisan and Baron (2007, 2009, 2010) find that *social integrative benefits* are positively related to participation. Hence, I suggest that companies can stimulate participation through *social integrative benefits* by building friendships with the consumers in the community, leading to hypothesis 9b.

Hypothesis 9b: Social integrative benefits mediate the effects of friendship with company employees on participation.

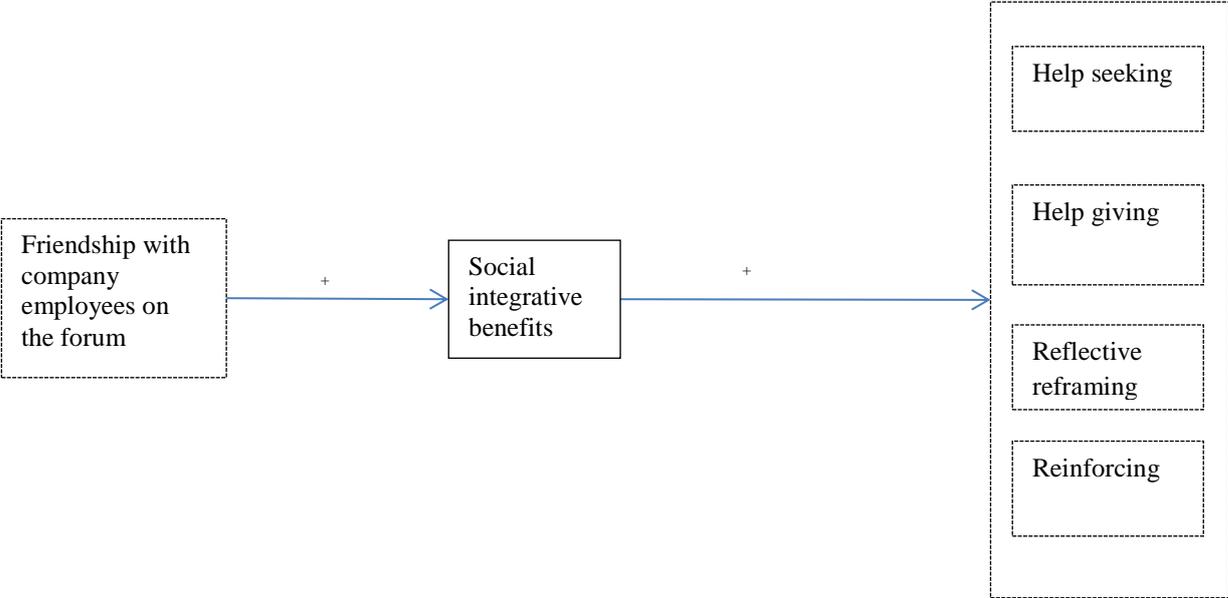


FIGURE 4: SOCIAL INTEGRATIVE BENEFITS MEDIATE THE EFFECT OF FRIENDSHIP WITH COMPANY EMPLOYEES ON PARTICIPATION

3.3 The extended research model

The extended research model is built on the preliminary research model, adding the hypotheses I suggest based on the exploratory study. In addition to the six antecedents in the preliminary research model, I suggest that *anonymity* is an antecedent of participation and is positively related to the four forms of participation. I also suggest that *personal integrative benefits facilitators* influence *personal integrative benefits* and that *friendship with company employees* influences *social integrative benefits*. In this way, *personal integrative benefits* and *social integrative benefits* become mediators between personal integrative facilitators and participation and *friendship with company employees* and participation respectively.

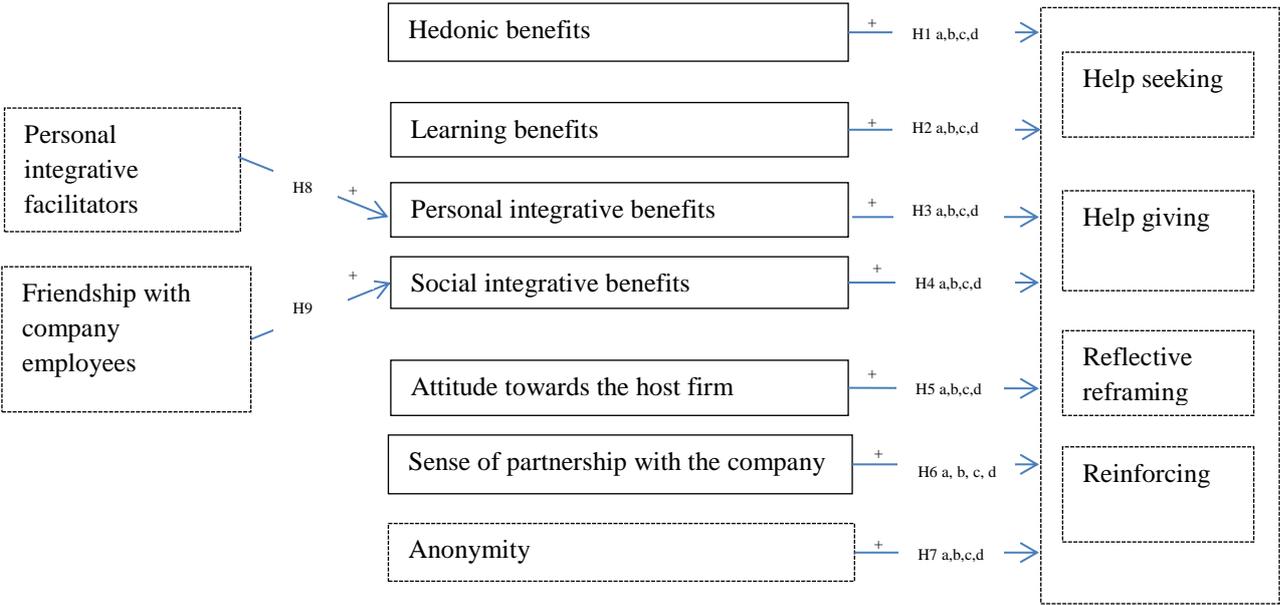


FIGURE 5: EXTENDED RESEARCH MODEL

The extended research model suggests that participation in online communities for customer support is far more complex and multifaceted than Nambisan and Baron (2007, 2009, and 2010) imply. As previous research indicates, consumers might participate in the communities

in four different ways: by *help seeking*, by *giving help*, by participating in *reflective reframing*, and by conducting *reinforcing* activities. In addition, the exploratory study reveals that *anonymity* might be an additional antecedent of participation. Furthermore, I find that companies might facilitate *personal integrative benefits* and *social integrative benefits*. By testing the extended research model quantitatively, I hope to provide an integrated and more complete model of participation in online communities of customer support.

4.0 MAIN STUDY – METHOD

In this chapter, I first present the research setting, sample, and data collection processes for both the pretest and the main survey. I then present the measures, most of which are based on established research while some are new and developed based on the findings from the exploratory study. Following that, I conduct confirmatory factor analyses. The confirmatory factor analysis based on the pretest tests the model fit, the convergent validity, and the discriminant validity of the new scales. Likewise, the confirmatory factor analysis of the main survey tests the fit, the convergent validity, and the discriminant validity of the full measurement model. Finally, I explain how I take precautions to avoid common method bias and run Harman's single factor test to ensure that the scales are not subject to common method bias.

4.1 Setting, sample, and data collection

In the following, I present the setting, sample, and data collection process for the pretest and the main survey.

4.1.1 Pretest

The pretest is intended to test whether the new scales fit the data, to validate the scales, and to test the scales for common method bias before I apply them as part of the main survey. Using the software Qualtrics, I sent an online questionnaire out by e-mail to 1,188 master students at the Norwegian School of Economics (NHH). Most of the master students at NHH are 22 to 26 years old, and around 40% are female. Everyone who completed the survey was eligible to

participate in a drawing to win an iPad. The survey was active for one week. After five days, I sent a reminder to those who had not taken the survey. After seven days, the survey was closed. In total, 251 respondents completed the survey. To avoid careless responses I included a question where all respondents were asked to answer “5”. Based on failed responses to this question, 19 questionnaires were excluded from the study. As the respondents were not expected to be members of an online community for customer support, the second page of the survey included information about what an online forum for customer support is and how it works (appendix 7). In order to understand the questionnaire, the respondents needed to read this text. To ensure that the respondents had read it, I included an invisible timer. The respondents spent on average 100 seconds reading the text. To double-check, I also let other researchers go through the survey to see how long time they spent on it. Based on these results, I excluded the answers from respondents who spent less than 30 seconds, resulting in an additional 37 responses being rejected. After these eliminations, 195 responses remained to be included in the pretest.

4.1.2 Main survey

The purpose of the main survey is to test the fit of the full measurement model, to validate it, and to test it for common method bias as well as to test the research model. The respondents for the main survey are participants in one of the two support communities I investigated for my exploratory study (company B). It might have been desirable to do a survey on both communities, especially with regard to the possibilities of a larger sample size. However, only company B granted me access to do the survey among their community members.

Furthermore, both communities are based on the same platform and software, are set up in almost exactly in the same way, use the same types of reward systems, and focus on the same

topics, indicating that no large differences exist between the communities and that the results therefore would have been relatively similar.

As with the pretest, I used the online software Qualtrics to develop and run an online survey, and the respondents could participate in a drawing for an iPad as a reward for their efforts. The forum manager made an announcement on the front page of the forum, clearly visible to anyone who entered the forum, where he introduced the research project and posted a link to the survey. On the same post, he also posted a link to a discussion thread I started in the “chatter room” on the forum. In this thread I presented my research and myself. By starting this thread, I was also able to answer questions the respondents might have, inform the forum members when the survey was closed, and announce the winner of the iPad.

The survey was active for approximately one month and resulted in 244 responses. In this survey, I also included a question that asked the respondents to answer “5”, enabling me to sort out careless responses. Based on this question, 35 responses were deleted, leaving me with 209 useable responses. Based on IP addresses, I also made sure that each respondent took the survey only once. A screen-print of the forum manager’s post on the forum front page and of my initial post in my thread in the “chatter room” are available in appendices 8 and 9 respectively.

4.2 Measures

Most of the scales I apply are adapted from established research, while the scales measuring *personal integrative benefits facilitators* and different forms of participation are scales developed based on the findings from the exploratory study. Most scales are 5-point Likert

scales, while the scales measuring *anonymity* and *attitude towards the host firm* are 5-point semantic differential scales.

4.2.1 Measures based on established research

I adapted the scales measuring the antecedents *hedonic benefits*, *learning benefits*, *personal integrative benefits*, and *social integrative benefits* from Namibsan and Baron (2009). I adapted the scale measuring *attitude towards the host firm* from Nambisan and Baron (2007), the scale measuring the antecedent *sense of partnership with the company* from Nambisan and Baron (2010), and the scale for the proposed antecedent *anonymity* from Qian and Scott (2007). Finally, I adapted the scale measuring the proposed facilitator *friendship with company employees* from Han et al. (2008). These scales are available in table 13.

4.2.2 Additional measures

My exploratory study reveals ways in which companies can facilitate *personal integrative benefits*, and how companies can build friendships with the community members to facilitate *social integrative benefits*. For *friendship with company employees*, I used the scale developed by Han et al. (2008), but no available scale is currently available for measuring facilitators for *personal integrative benefits*. Furthermore, in line with Hargadon and Bechky (2006), I propose that there are four different forms of participation in online communities for customer support: *help seeking*, *help giving*, *reflective reframing*, and *reinforcing*. However, as Hargadon and Bechky (2006) do not test participation quantitatively, they do not provide measurement scales. Some studies (e.g., Koh et al. 2007, Phang et al. 2009, Zhao et al. 2013) test forms of participation that are related to the four forms of participation I identify, but the forms of participation these studies (ibid.) test tend to be more specific and narrow than the

ones I suggest. Hence I need to develop and validate new scales for measuring facilitators for *personal integrative benefits* and for measuring the four forms of participation.

The exploratory study shows that the companies use several different mechanisms to facilitate *personal integrative benefits*: the consumers can earn kudos, they can gradually earn more prestigious titles, and they can have answers marked as the correct solutions. By using these facilitators, the companies enable the consumers to gain higher status. In addition, the companies also write posts where they deliberately thank consumers that are helping others. Both the online archival data and the interviews from the exploratory study show that these four facilitators are important for the consumers, and that the facilitators help them to gain *personal integrative benefits* in the online support community. Hence, I propose these four mechanisms as items for measuring facilitators for *personal integrative benefits*.

Likewise, the exploratory study shows which exact activities people engage in when they seek help, when they give help, when they participate in *reflective reframing*, and when they conduct *reinforcing* activities. Based on these activities, I suggest scales and items measuring the four forms of participation. All the new scales are provided in table 12.

4.3 Confirmatory Factor Analyses

I perform confirmatory factor analyses (CFAs) to test the fit and the validity (e.g., Bagozzi and Yi 2012) of the new scales and the full measurement model. I use LISREL 9.10 with covariance matrix and robust maximum likelihood of estimation. The tables below summarize results from the fit- and validity tests, which I discuss in the following paragraphs.

	Loading	CR	AVE	MSV
Help Seeking		0.69	0.45	0.07
<i>How important are the following activities to your participation on the forum?(1=not important at all, 5=very important)</i>				
Asking other customers for help	0.83			
Asking company employees for help	0.73			
Browsing the forum for possible existing solutions for my problem	0.36			
Help Giving		0.80	0.57	0.61
<i>How important are the following activities to your participation on the forum?(1=not important at all, 5=very important)</i>				
Suggesting answers to other people's problems	0.77			
Browsing the forum for possible questions to answer	0.64			
Browsing the forum for information needed to answer other people's questions	0.84			
Reflective Reframing		0.87	0.69	0.61
<i>How important are the following activities to your participation on the forum?(1=not important at all, 5=very important)</i>				
Joining general discussions about the company	0.89			
Joining discussions about the forum	0.88			
Joining discussions not related to the company, the forum, or problem solving	0.71			
Reinforcing		0.79	0.55	0.30
<i>How important are the following activities to your participation on the forum?(1=not important at all, 5=very important)</i>				
Giving kudos to other forum members	0.78			
Writing posts thanking other forum members for their contribution	0.63			
Marking other people's posts as correct solution	0.80			
Personal Integrative Benefits Facilitators		0.87	0.63	0.30
<i>To what degree do you agree with the following statements?(5-point scale; 1=strongly disagree, 5=strongly agree)</i>				
I often receive "kudos" from the company and from other members	0.81			
I earn more prestigious titles as I contribute on the forum over time	0.82			
I often get my answers marked as "correct solution"	0.80			
The company often thanks me for my contributions in the posts they make	0.75			

df: 94, Satorra-Bentler Scaled Chi-square: 178.68 (P=0.00), RMSEA:0.07, CFI:0.97, SRMR: 0.064

TABLE 12: CFA AND VALIDITY CHECKS NEW SCALES, BASED ON PRETEST DATA

	Loading	CR	AVE	MSV
Help Seeking		0.84	0.64	0.15
<i>How important are the following activities to your participation on the forum?(1=not important at all, 5=very important)</i>				
Asking other customers for help	0.76			
Asking company employees for help	0.94			
Browsing the forum for possible existing solutions for my problem	0.68			
Help Giving		0.81	0.58	0.55
<i>How important are the following activities to your participation on the forum?(1=not important at all, 5=very important)</i>				
Suggesting answers to other people's problems	0.71			
Browsing the forum for possible questions to answer	0.71			
Browsing the forum for information needed to answer other people's questions	0.86			
Reflective Reframing		0.89	0.74	0.55
<i>How important are the following activities to your participation on the forum?(1=not important at all, 5=very important)</i>				
Joining general discussions about the company	0.88			
Joining discussions about the forum	0.92			
Joining discussions not related to the company, the forum, or problem solving	0.77			
Reinforcing		0.84	0.64	0.55
<i>How important are the following activities to your participation on the forum?(1=not important at all, 5=very important)</i>				
Giving kudos to other forum members	0.76			
Writing posts thanking other forum members for their contribution	0.84			
Marking other people's posts as solution	0.79			
Personal Integrative Benefits (Adapted from Nambisan and Baron 2009)		0.91	0.73	0.77
<i>The following statements relate to benefits you can achieve from your participation on the forum Please indicate the extent to which you agree with the following statements (5-point scale; 1=strongly disagree, 5=strongly agree)</i>				
I can improve my status and reputation as a product expert on the forum	0.96			
I can strengthen my problem-related credibility and authority on the forum	0.96			
I can derive satisfaction from influencing how other customers use the products	0.74			
I can derive satisfaction from influencing product design and development	0.67			
Social Integrative Benefits (Adapted from Nambisan and Baron 2009)		0.94	0.83	0.77
<i>The following statements relate to benefits you can achieve from your participation on the forum. Please indicate the extent to which you agree with</i>				

<i>the following statements (5-point scale; 1=strongly disagree, 5=strongly agree)</i>				
I can expand my personal and social network	0.84			
I can enhance the strength of my affiliation with the forum	0.97			
I can enhance my sense of belonging to the forum	0.93			
Hedonic Benefits (Adapted from Nambisan and Baron 2009)		0.92	0.75	0.48
<i>The following statements relate to benefits you can achieve from your participation on the forum. Please indicate the extent to which you agree with the following statements (5-point scale; 1=strongly disagree, 5=strongly agree)</i>				
I can spend some enjoyable and relaxing time	0.89			
I can have fun and find pleasure	0.90			
I can entertain and stimulate my mind	0.87			
I can experience enjoyment from problem solving and idea generation	0.74			
Learning Benefits (Adapted from Nambisan and Baron 2009)		0.87	0.69	0.36
<i>The following statements relate to benefits you can achieve from your participation on the forum. Please indicate the extent to which you agree with the following statements (5-point scale; 1=strongly disagree, 5=strongly agree)</i>				
I can improve my knowledge about the product and its usage	0.84			
I can find solutions to specific product-usage related problems	0.92			
I can improve my knowledge about advances in the product, related products, and technology	0.87			
Partnership with the company (Adapted from Nambisan and Baron 2010)		0.90	0.70	0.62
<i>Please indicate whether you agree or disagree with each of the following statements (5-point scale; 1=strongly disagree, 5=strongly agree)</i>				
I understand how my contributions are considered and utilized by the company	0.85			
I generally receive quick feedback from (company name) on my contribution	0.73			
I understand the aspects of customer support for which (company name) is seeking contributions	0.87			
I know what (company name) wants to achieve from the contributions I carry out on the forum	0.89			
Anonymity (Adapted from Qian and Scott 2007)		0.80	0.58	0.02
<i>To what extent do you think that you are anonymous on the forum?(5-point scale)</i>				
Totally anonymous/Totally identifiable	0.71			
I can hide my real life identity/I cannot hide my real life identity	0.87			
Others cannot recognize my real life identity/Others can recognize my real life identity	0.69			
Friendship with company employees (Adapted from Han et al. 2008)		0.91	0.66	0.62
<i>Please indicate the extent to which you agree with the following statements (5-point scale; 1=strongly disagree, 5=strongly agree)</i>				
I feel a sense of familiarity with the company representatives on the forum	0.90			
I like the company representatives on the forum	0.75			
I trust the company representatives on the forum	0.74			
I feel I know the company representatives on the forum	0.87			
I regard the company representatives on the forum as my friends	0.80			
Personal Integrative Benefits Facilitators		0.90	0.69	0.52
<i>To what degree do you agree with the following statements?(5-point scale; 1=strongly disagree, 5=strongly agree)</i>				
I often receive “kudos” from the company and from other members	0.84			
I earn more prestigious titles as I contribute on the forum over time	0.86			
I often get my answers marked as “solution”	0.82			
The company often thanks me for my contributions in the posts they make	0.79			
Attitude towards the host firm (Adapted from Nambisan and Baron 2007)		0.94	0.72	0.46
<i>Please indicate if you think the company is (5-point scale)</i>				
Not reputed/Reputed	0.86			
Not quality conscious/Quality conscious	0.88			
Not distinctive image/Distinctive image	0.63			
Not impressive/Impressive	0.93			
Negative opinion/Positive opinion	0.92			
Not customer friendly/Customer friendly	0.85			

df: 1002, Satorra-Bentler Scaled Chi-square: 1546.30 (P=0.00), RMSEA: 0.0596, CFI: 0.985, SRMR: 0.0582

TABLE 13: CFA AND VALIDITY CHECKS FULL MEASUREMENT MODEL, BASED ON MAIN SURVEY

	Pers.int. facilitators	Friend. comp.	Hed. ben.	Learn. benef.	Attitudes	Sense of partn.	Anon.	Pers.int. ben.	Soc.int. ben.	Help seek.	Help giv.	Refl. refr.	Reinforc.
Pers.int. facilitators	1.00												
Friend. comp.	0.72***	1.00											
Hed. ben.	0.54***	0.67***	1.00										
Learn. Benef.	0.40***	0.53***	0.60***	1.00									
Attitudes	0.42***	0.64***	0.45***	0.44***	1.00								
Sense of partn.	0.59***	0.79***	0.61***	0.53***	0.68***	1.00							
Anon.	0.115	0.06	-0.11	-0.20	0.002	0.08	1.00						
Pers.int. ben.	0.68***	0.67***	0.62***	0.53***	0.38***	0.53***	0.02	1.00					
Soc.int.ben.	0.65***	0.71***	0.68***	0.52***	0.46***	0.61***	-0.01	0.88***	1.00				
Help seek.	0.070	0.24**	0.10	0.31**	0.17	0.23**	-0.02	0.24**	0.28***	1.00			
Help giv.	0.57***	0.60***	0.59***	0.43***	0.30***	0.44***	-0.07	0.67***	0.65***	0.25**	1.00		
Refl.ref.	0.47***	0.55***	0.42***	0.33***	0.25***	0.43***	0.04	0.57***	0.64***	0.32***	0.74***	1.00	
Reinforc.	0.57***	0.55***	0.56***	0.33***	0.23**	0.40***	0.001	0.62***	0.65***	0.39***	0.74***	0.64***	1.00

*= $p<0.05$, **= $p<0.01$, ***= $p<0.001$
df:1002, Satorra-Bentler Scaled Chi-square: 1546.30 ($P=0.00$), RMSEA: 0.0596, CFI: 0.985, SRMR: 0.0582
TABLE 14: CFA FULL MEASUREMENT MODEL PHI MATRIX BASED ON MAIN SURVEY

4.3.1 Model fit

I assess the fit of the new scales and the full measurement model by examining the Chi-square, root mean square error of approximation (RMSEA), comparative fit index (CFI), and standardized root mean square residual (SRMR). The Chi-square compares the observed and estimated covariance matrices (Hair et al. 2010), the RMSEA shows the average amount of misfit for a model per degree of freedom (Bagozzi and Yi 2012), the CFI indicates the relative non-centrality between a hypothesized model and the null model of modified independence (a model where only error variances are estimated) (ibid.), and the SRMR is the square root mean square of the average squared residuals (ibid.). Bagozzi and Yi (2012) recommend that the RMSEA should be maximum 0.07, while Hair et al. (2010) say that previous research points towards a cutoff value of 0.08. The CFI should be at least 0.90 (Hair et al. 2010), while the SRMR should be lower than 0.1 (Hair et al. 2010), preferably below 0.07 (Bagozzi and Yi 2012).

New scales – Pretest

The RMSEA of the new scales is 0.07, which implies that the model fits the data well (Table 12). I also look at the CFI and the SRMR scores, which both suggest sufficient fit with scores of 0.97 and 0.064 respectively.

Full measurement model – Main survey

Likewise, the RMSEA of the measurement model (0.0596) is within the advised limit (table 13). In addition, both the CFI (0.985) and the SRMR (0.0582) scores are sufficient.

4.3.2 Convergent validity

Convergent validity relates to the extent to which the items of a construct are consistent, and share a high proportion of variance in common (Hair et al. 2010). I evaluate the convergent validity of the new constructs (based on the pretest data) and all the constructs in the measurement model (based on the forum survey data) by testing for Composite Reliability (CR) and Average Variance Extracted (AVE). The CR values should be greater than 0.6 to support convergent validity (Bagozzi and Yi 1988), while the AVE scores should be above 0.5 (Hair et al. 2010).

New scales – Pretest

The CR and AVE scores of the pretest data (table 12) show satisfying results for convergent validity of the new scales. The exception is the AVE for *help seeking*, which is a little below the advised cut-off value of 0.5 with a score of 0.45. However, the CR score is satisfactory with 0.67. Furthermore, the pretest was conducted on students, who were not necessarily representative of the participants in the actual online support community I examined for the main survey. In addition, the students were not expected to be members of an online support community themselves. Hence, they had to imagine how they would have participated based on the brief I presented at the beginning of the survey (appendix 7) rather than reporting based on their own experiences. Based on these considerations I anticipate satisfying scores when validating the scales based on the main survey data, and proceed to use the new scales as planned.

Full measurement model – Main survey

The AVE and CR scores for the full measurement model, based on data from the forum survey (table 13), indicate that the convergent validity is satisfying for all the scales. As

opposed to the pretest data, the AVE for the scale measuring *help seeking* is at an acceptable level, with a score of 0.64, which support the decision to include this scale.

4.3.3 Discriminant validity

Discriminant validity relates to the extent to which a construct is truly distinct from other constructs (Hair et al. 2010). Fornell and Larcker (1981) argue that a latent construct should explain more of the variance among items measuring the construct than compared to other constructs. Thus, for discriminant validity to be sufficient, the AVE should be higher than the squared correlation coefficient among constructs (ibid).

New scales – Pretest

For the new scales (based on the pretest data), the AVE is less than the Maximum Shared Squared Variance (MSV) for *help giving*, indicating poor discriminant validity between *help giving* and another construct (table 12). However, the pretest was performed on students that were neither necessarily representative of the respondents of the main survey nor expected to be participants in an actual online community for customer support. Hence I keep the construct as it is and expect that the discriminant validity will be satisfying when testing for validity based on the main survey data.

Full measurement model – Main survey

Testing the discriminant validity of the measurement model based on the forum survey (table 13) reveals that the discriminant validity of *help giving* is sufficient. However, the AVE is less than the MSV for *personal integrative benefits*. Looking at the correlations between the constructs (table 14), I find that the loading between *personal integrative benefits* and *social*

integrative benefits is 0.88, which is rather high. This finding indicates that the discriminant validity between the two constructs is poor. However, as both scales have been tested, validated, and applied by Nambisan and Baron (2007, 2009, 2010), and I want to compare my results with their (ibid.) findings, I keep the scales as they are for my further analysis.

4.4 Common method bias

Common method bias refers to situations where variance is attributable to the measurement method rather than to the constructs the measures represent, which can be a threat to the validity of research results (Podsakoff et al. 2003). The usage of similar scale formats makes it easier for the respondents to complete the questionnaire as it provides a standardized format requiring less cognitive processing (ibid.); however, this approach also increases the possibility of common method bias (ibid.). As most of my scales are 1 – 5 Likert scales, my study runs the risk of common method bias. Furthermore, my scales include self-reported behavioral measures and perceptual responses, which further increase the risk of common method bias (Tsai and Bagozzi 2014). Although common method bias can be a threat to validity, the problem is not eliminated by evidence of validity (Podsakoff and Organ 1986). Hence, I have taken several precautions to reduce the risk of common method bias.

One option is to vary the scale anchors and formats by, for example, using bipolar numerical scales and providing verbal labels for the midpoints of scales (Podsakoff et al. 2003). I mostly use 5-point Likert scales, but I apply 5-point semantic differential scales for measuring *anonymity* and *attitude towards the host firm*. In this way, I am able to ensure some variation in scale formats.

Podsakoff et al. (2003) also recommend that the researcher allow the respondent to answer anonymously and ensure the respondent that there are no right or wrong answers. Doing so may reduce the respondents' evaluation apprehension, causing people to be less likely to adjust their responses to be more socially desirable (ibid.). My respondents are ensured full *anonymity*, and I also make sure that my introduction to the questionnaire highlights that there are no right or wrong answers and that I am interested in the experiences and thoughts they have regarding their participating in the community.

Another procedural option I take is to reorder the items on the questionnaire so that the dependent variable follows rather than precedes the independent variable (Podsakoff and Organ 1986). I place the scales measuring participation (the dependent variables) at the very end of the questionnaire, and thereby reduce the effects of consistency artifacts (Podsakoff and Organ 1986).

Furthermore, I attempt to reduce the risk of common method bias by improving the scale items (Podsakoff et al. 2003) that I develop myself. In particular, I avoid using unfamiliar terms, avoid vague concepts, and I try to keep the questions simple and concise. In this way, I hope to reduce problems in the response process due to item ambiguity (ibid.).

Finally, to statistically test for common method bias, I run Harman's single factor test (Podsakoff et al. 2003) both on the new scales and on the measurement model by conducting an exploratory factor analysis (ibid.) in SPSS. The assumption is then that, if common method bias is substantial, one single factor would emerge from the factor analysis, or one general factor would account for the majority of the covariance among the items (ibid.)

New scales – Pretest

For the new scales, Harman's single factor test for common method bias shows that four factors emerge. Furthermore, the first item counts for 35.96% of the variance among the items, which is well below the limit of 50% (Podsakoff et al. 2003). Hence, common method bias is not likely to be substantial for the new scales.

Full measurement model – Main survey

For the full measurement model Harman's single factor test shows that 10 variables emerge, and that the first item accounts for 38,86% variance among the measures. These results indicate that the measurement model is not subject to common method bias.

5.0 MAIN STUDY – FINDINGS

After conducting an elaborate literature review, proposing an initial research model of participation in online communities for customer support, conducting an exploratory study and proposing a more complete and complex model, developing and validating new measurement scales, and validating the full measurement model, I am now ready to test the research model and its hypotheses.

Structural equation modelling (SEM) enables the simultaneous estimation of multiple dependence relations while also incorporating multiple measures for each concept (Hair et al. 2010). I have a complex model where all constructs are latent, I propose multiple dependence relations, I propose mediators, and I use LISREL 9.10 to do the confirmatory factor analyses. Hence, I use LISREL 9.10 with covariance matrix and robust maximum likelihood estimation to perform SEM to test my research model.

In the following I report the findings from the SEM analyses and discusses the findings in more detail in chapter 6. As with the CFA of the new scales and the full measurement model, I first test if the fit indicators (RMSEA, CFI, and SRMR) show satisfying scores. The results indicate that the model fits the data well. The results from the fit tests and the findings from the SEM analyses are available in table 15.

	Help Seeking	Help Giving	Refl. Reframing	Reinforcing	Pers. int. ben.	Soc. int. ben.
Hed. benefits	-0.34**	0.261**	-0.03	0.26**		
Learn. benefits	0.31*	-0.003	0.01	-0.06		
Pers. int. benefits	-0.02	0.27***	0.03	0.08		
Soci. int. benefits	0.32***	0.34***	0.62***	0.56***		
Att. towards host firm	-0.04	-0.10	-0.15	-0.17		
Sense of partn. company	0.12	0.03	0.16	0.04		
Anonymity	-0.03	-0.05	0.03	0.02		
Pers. int. facilitators					0.72***	
Friendship with comp.						0.75***

*= $p < 0.05$, **= $p < 0.01$, ***= $p < 0.001$
df.:1029, Satorra-Bentler Scaled Chi-square: 1848.16 ($P=0.00$), RMSEA: 0.07, CFI: 0.977, SRMR: 0.1
TABLE 15: RESULTS OF SEM OF RESEARCH MODEL

5.1 Hypotheses 1 – 7, and 8a and 9a

In this paragraph I report the results of the tests of the direct effects: hypotheses 1 – 7 and 8a and 9a. I find that *hedonic benefits* is negatively related to *help seeking*, and positively related to *help giving* and *reinforcing*. This finding supports hypotheses 1 b and 1 d. *Learning benefits* is positively related to *help seeking*, supporting hypothesis 2 a. I also find strong support for hypothesis 3 b, as *personal integrative benefits* is positively related to *help giving*. Since *social integrative benefits* is strongly and positively related to all four forms of participation, hypotheses 4 a, b, c, and d are supported. Hypotheses 5, 6, and 7 are all fully rejected, as neither *attitude towards the host firm*, *sense of partnership with the company*, nor *anonymity* is related to any of the dependent variables. Finally, hypotheses 8a and 9a are supported, as *personal integrative benefits facilitators* is positively related to *personal integrative benefits*, and *friendship with company employees* is positively related to *social integrative benefits*.

5.2 Hypotheses 8b and 9b

After having tested the direct effects, I test the mediating effects proposed as hypotheses 8b and 9b. To test the mediation hypotheses I first examine the PHI-matrix from the CFA analysis (Hair et al. 2010, table 14). As the relation between *personal integrative benefits* and *help seeking* is insignificant I do not include this relation in the further analysis. I then check whether mediation can exist based on the SEM results of the research model: if any of the relations involved in the proposed mediations is not significant, it is excluded from further analysis (ibid.). Table 15 shows that *personal integrative benefits* is significantly related only to *help giving*. Hence, I do not test if *personal integrative benefits* mediate the relations between *personal integrative benefits facilitators* on one hand and *help seeking*, *reflective reframing*, and *reinforcing* on the other.

Finally, I test for full mediation by inserting direct paths between the facilitators and the dependent variables for relations where full mediation is proposed (Hair et al. 2010). Full mediation exists if the structure model with the direct path does not achieve significantly better fit (Chi-square score) than when the model proposes full mediation (ibid.). I use the findings from my structure model (table 15) as comparison, as this model proposes full mediation.

As table 16 shows, adding a direct path between the facilitators and the dependent variables does not significantly improve the model fit, supporting the idea that the tested mediating effects exist. My findings only partly support to hypothesis 8b. Due to lacking significant relations, I have tested and found that only *personal integrative benefits* fully mediates the relation between *personal integrative benefits facilitators* and *help giving*. Hypothesis 9b is

fully supported, as I test and find that *social integrative benefits* fully mediates the relation between *friendship with company employees* and all four dependent variables *help seeking*, *help giving*, *reflective reframing*, and *reinforcing*.

Independent variable	Dependent variable	Chi-square	Δ Chi-square	Mediation
Personal int. ben. facilitators	Help giving	1845.42	2.74	Full mediation
Friendship with company employees	Help seeking	1848.39	0.23	Full mediation
	Help giving	1844.53	3.63	Full mediation
	Reflective reframing	1846.12	2.04	Full mediation
	Reinforcing	1846.09	2.07	Full mediation

*= $p < 0.05$ Δ Chi-square, $df=1029$, Δ Chi-square as compared to model with full mediation, see table 11.

TABLE 16: MEDIATION TESTS

6.0 DISCUSSION AND IMPLICATIONS

Participation in online communities for customer support is far more complex and multifaceted than previous researchers suggests. Based on established research, my preliminary research model proposes that there are six antecedents of participation in online communities for customer support. Likewise, drawing on prior research, the model suggests four forms of participation. Although I base the preliminary research model on prior research, no researchers have so far tested all four forms of participation simultaneously. My extended research model, which in addition to the preliminary research model is based on insights from the exploratory study, suggests a more complex picture; specifically I identify seven antecedents of participation, and find that companies can facilitate two of the antecedents and thereby indirectly stimulate participation. From the quantitative study an even more nuanced picture emerges: only four of the antecedents of participation are significant, but these antecedents influence the four forms of participation differently. The study confirms that companies can facilitate two of the antecedents, as proposed by the extended research model. Combining the insights from the prior research, the exploratory study, and the quantitative study, I am able to answer the four research questions I propose in the introduction.

Research question 1: What are the antecedents of participation in online communities for customer support?

My findings imply that *hedonic benefits*, *learning benefits*, *personal integrative benefits*, and *social integrative benefits*, are antecedents of participation in online communities for customer support.

Research question 2: How can companies facilitate the antecedents of participation in online communities for customer support?

I find that the company can facilitate the antecedent *personal integrative benefits* by enabling the consumers to give each other kudos and mark answers as correct solution, by granting the consumers increasingly more prestigious titles, and by writing posts to thank the community members for their efforts. Likewise, my findings imply that companies can facilitate *social integrative benefits* by building friendships to the consumers in the community.

Research question 3: What are the forms of participation in online communities for customer support?

My findings confirm that consumers participate in online communities for customer support by seeking help, giving help, participating in *reflective reframing*, and conducting *reinforcing* activities.

Research question 4: How do the different antecedents of participation in online communities for customer support influence the different forms of participation?

I find that the antecedents of participation influence the forms of participation differently. *Hedonic benefits* are negatively related to *help seeking*, but positively related to *help giving* and *reinforcing*. *Learning benefits* are positively related to *help seeking*, while *personal integrative benefits* are positively related to *help giving*. *Social integrative benefits* are positively related to all four forms of participation.

The figure below compares the preliminary research model, the extended research model, and the quantitative findings. In the following I first discuss my findings and suggest theoretical

implications. Then I provide managerial implications. Finally, I briefly summarize the chapter by pointing at why additional issues need to be addressed.

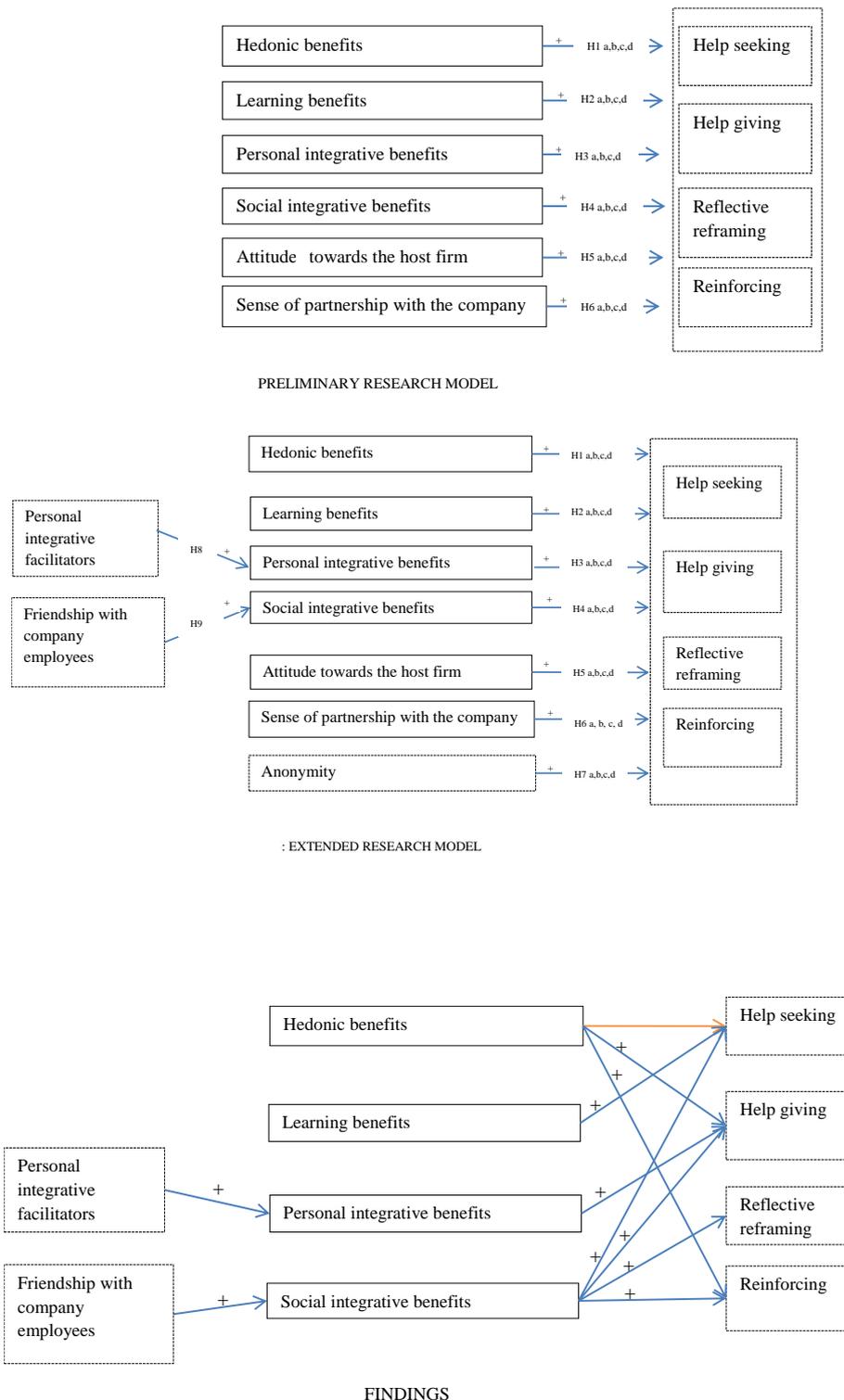


FIGURE 6: PRELIMINARY RESEARCH MODEL, EXTENDED RESEARCH MODEL, AND FINDINGS

6.1 Discussion and theoretical implications

In line with my research model, the quantitative findings confirm that consumers participate in online communities for customer support in four different ways: by seeking help, by giving help, by participating in *reflective reframing*, and by conducting *reinforcing* activities. Based on findings from the exploratory study, I have also developed and validated scales measuring the four forms of participation, and scales measuring *personal integrative benefits facilitators*. As compared to previous research, these findings provide a broader understanding of how people actually participate in online communities for customer support. Most researchers tend to see participation as one general dependent variable (e.g., Nambisan and Baron 2007, 2009, Benlian and Hess 2011, Füller et al. 2008, Zhou et al. 2013), some distinguish between *help seeking* and *help giving* (e.g., Chang et al. 2013, Koh et al. 2007, Zhao et al. 2013), Nov et al. (2010) distinguish between activities related to *help giving* and activities related to *reinforcing*, while Nambisan and Baron (2010) distinguish between activities that can be characterized as *help giving* on one hand and activities related to *reflective reframing* on the other. However, no researchers have so far studied all the four forms of participation simultaneously. Hence, based on my findings, I argue that we need to recognize that participation in online communities is far more multifaceted than previously studied. Focusing on participation in general, or on two different forms of participation, could cause us to oversimplify and miss out on interesting insights. Rather, further research should incorporate all four types of participation in their research models in order to capture a more complete picture of participation in online communities for customer support.

Adding to the complexity of participation, this dissertation also reveals that the four types of participation are in most cases not influenced by the same antecedents. As a result, it is crucial

not only to understand what motivates people to participate, but also to understand what form of participation they are involved in and what motivates them to be involved in this form of participation. Understanding why consumers are involved in one form of participation does not mean that we can say something about why consumers might be involved in the other three forms of participation.

The only exception to this rule is the antecedent of *social integrative benefits*, which is positively and strongly significantly related to all four forms of participation. This finding implies that, across all the different antecedents, the outlook to gain *social integrative benefits* is the most general, and perhaps also important, antecedent. This argument is well in line with previous research. Based on the literature review, I recognize that no other antecedent has been studied and found significant by a larger number of researchers than antecedents related to *social integrative benefits* (e.g., Nambisan and Baron 2007, 2009, Chang et al. 2013, Phang et al. 2009, Zhao et al. 2013, Tsai and Bagozzi 2014). With 28 different studies that have looked at *social integrative benefits*, or similar antecedents, it seems like a well-established fact that people are motivated by *social integrative benefits*: they participate because they hope to make new friends and find social belonging. This study strongly supports that *social integrative benefits* is an important antecedent, and it is found significant not only for one or two but for all four forms of participation.

My research adds to the understanding of *social integrative benefits* by proposing that companies can facilitate *social integrative benefits* by building friendships with the consumers in the community. Conducting the exploratory study, I find that the companies are deliberately and strategically building friendships with the members in the online support community by, for example, being friendly, using an informal language, trying to get to know

more about the hobbies and interests of the community members, and joining the community member on online platforms outside the official support community. I also find that the consumers highly appreciate these friendships, and that these friendships make it easier for them to achieve *social integrative benefits* such as an expanded social network and strengthened sense of belonging to the community. As my research model proposes, *social integrative benefits* then become a mediator between friendships with the consumers and all four forms of participation. In other words, although consumers might appreciate the friendships they develop with the employees of the company, this friendship as such is not motivating them to participate in the community. Rather, the friendship makes it easier for them to achieve *social integrative benefits*, which in turn motivates them to participate. Therefore, researchers need to consider friendship between the employees and the consumers as a facilitator for *social integrative benefits*, and thus also *social integrative benefits* as a mediator between friendships with the consumers and participation.

In line with established research (e.g., Nambisan and Baron 2007, 2009, Zhao et al. 2013, Zheng et al. 2011), my research model proposes that expectations about gaining *personal integrative benefits*, or the ability to gain status and recognition, are positively related to the four forms of participation. Interestingly, I find that *personal integrative benefits* are related only to *help giving*. This finding implies that expectations about *personal integrative benefits* motivates people to get involved only in *help giving* activities, and do not stimulate people to get involved in any of the other forms of participation. In practice, this finding suggests that it is possible for companies to specifically motivate people to give help by facilitating *personal integrative benefits*. Explicitly motivating people to give help can prove to be very desirable for companies, as the success of the communities depends on people like the superusers, who are willing to contribute time and efforts to help others.

Based on the findings from the exploratory study, the research model suggests that companies can facilitate *personal integrative benefits* by enabling kudos, allowing people to mark answers as solutions, letting the participants gradually earn more prestigious titles, and thanking consumers for their contributions. My quantitative analyses support these findings, implying that researchers must recognize that the relation *between personal integrative benefits* and participation is far more complicated than previously assumed. First, *personal integrative benefits* influence only *help giving*. Second, companies can stimulate *help giving* indirectly by facilitating *personal integrative benefits*. In this way, *personal integrative benefits* cannot be seen only as an independent variable influencing participation. Rather, it can also be a mediator between facilitators for *personal integrative benefits* and *help seeking*.

In addition, *learning benefits* is related to only one form of participation: *help seeking*. While my research model, in line with prior research (e.g., Nambisan and Baron 2007, 2009, 2010), suggests that expectations about gaining *learning benefits* is positively related to all four forms of participation, my findings reveal that this is not the case. Instead, I find that *learning benefits* is related only to *help seeking*. This discovery could indicate that, by asking for help in the community, people expect to learn from others who are more skilled and competent within this field than themselves. In this way, they might for example want to learn how to solve the problem themselves if it reoccurs in the future. At the same time, people who help others do not expect to further strengthen their knowledge by helping others in the community. As they are already competent to solve problems that are presented in the community, they are likely to expect to learn and improve their skills based on other sources. That people who seek help and give help are motivated by different antecedents shows that participation in the community can be a dynamic win-win situation: people who seek help

participate because they expect to learn, and people who give help participate because they expect to earn *personal integrative benefits*.

In order to stimulate people to seek help in the community, online communities need to have systems in place that enable customers to learn from the solutions that are presented. For example, Hemetsberger and Reinhardt (2006) find that learning in online communities can be enabled by open platforms where the community members can discuss and follow discussions, tutorials, and instructions of how problems can be solved, examine archives and logs of action and communication, and peruse online content presented in a systematic and simple way.

In the online support communities that I study, all discussions are open for anyone to see, and it is possible to read posts that date all the way back to when the discussion thread started. The discussions are systematically organized by topic, and tagging makes it easy to search for specific words and find relevant information. In addition, the forums also offer instructional videos and guidelines showing how different problems are solved.

For *hedonic benefits*, my findings are mixed. In line with the proposed research model, I find that expectations about gaining *hedonic benefits* are positively related to *help giving* and *reinforcing*. This finding can imply that expectations about achieving *hedonic benefits* influence people to help others in the community: they expect to find joy in helping other people with their problems. Similarly, my findings imply that people participate in *reinforcing* activities because they expect that it will be an enjoyable experience. *Reinforcing* activities relate to thanking other people for their contributions and help, and it appears reasonable that people expect that expressing gratitude towards others will make them feel good.

Surprisingly, I find that *hedonic benefits* are negatively related to *help seeking*. Based on established research (e.g., Nambisan and Baron 2007, 2009), I hypothesized that the expectation to achieve *hedonic benefits* would positively influence *help seeking*. The hypothesis seems plausible, as it might be expected that seeking help in a community will be regarded as more positive and enjoyable than seeking for help by contacting the company's call center, for example. This might still be the case. However, I have no data comparing the expectation about *hedonic benefits* in regard to different places to seek for help. What the findings do imply is that expectations about achieving *hedonic benefits* as such make it less likely that people will seek help in the community. This finding could indicate that people do not expect seeking help in the community to be a positive and enjoyable process. Rather, they probably just want to get their problem solved, and might be in a negative state of mind because of the problems they are facing before they seek help. There could also be a reverse causal relation: people who are seeking help in the community might experience this process as negative and emotionally stressful. Thus, as they seek help in the community, they do not expect the further *help seeking* process to bring them any *hedonic benefits*.

The results for the relation between *anonymity* and the four forms of participation are likewise unexpected. In line with established research on *anonymity* (e.g., Huerta et al. 2012, Suler 2004, Qian and Scott 2007) and the findings from the exploratory study, I proposed *anonymity* as a new and additional antecedent of participation in online communities for customer support. However, my survey data do not support this hypothesis. At first, this result seems rather surprising, as both the findings from my exploratory study as well as previous research (e.g., Huerta et al. 2012, Qian and Scott 2007, Suler 2004) indicate that *anonymity* could lead to more content and participation in the online support community. However,

examining the literature (ibid.) in more detail illuminates this finding after all. Benign disinhibition (Suler 2004) not only implies that anonymous people are more likely to help others, but it also means that people are more willing to reveal secret emotions, fears, and wishes. Similarly, Qian and Scott (2007) argue that *anonymity* makes people more willing to share potentially embarrassing details about themselves. As the topics discussed in the online support community are of a technical character rather than of an emotional and potentially embarrassing character, it is reasonable to conclude that *anonymity* will not lead to greater contribution. That consumers have problems with for example their cellphones or related services, or that they might propose a wrong solution to such a problem, is not something that would cause embarrassment, ridicule, or rejection from people they know. Hence, they may not feel a need to remain anonymous in order to participate in the support community (Qian and Scott 2007). Based on the findings from the exploratory study as well as on how previous research discusses *anonymity* (e.g., Qian and Scott 2007, Suler 2004, Huerta et al 2012), further research should be conducted before a final conclusion can be drawn.

Finally, my research model suggests that *attitude towards the host firm* (Nambisan and Baron 2007) and *sense of partnership with the company* (Nambisan and Baron 2010) influence participation positively. I do not find support for any of these relations, implying that these two antecedents are not relevant for the members in the community I study. As I have tested these hypotheses in an online community for customer support like Nambisan and Baron (2007, 2010), I would have expected the findings to be relatively similar. Of course, because I tested different types of participation rather than participation in general, I had expected that the antecedents might influence some of the forms of participation and not all. There could still be differences in context that influence the results, such as the purpose of the community, type of product or service discussed, and the level and type of involvement by the company

employees in the community. However, it might be necessary to conduct further studies in order to determine how and if these two antecedents actually influence the different types of participation.

6.2 Managerial implications

In this section I discuss what my findings imply for companies that are setting up and managing online communities for customer support. My findings indicate that there are four different forms of participation in online communities for customer support, and that consumers are motivated differently based on which form of participation they are involved in. Hence, companies need to find ways to motivate the consumers based on the type of activities the consumers are involved in.

Companies need to acknowledge that people participate in online communities for customer support in four different ways: *help seeking*, *help giving*, *reflective reframing*, and *reinforcing*. The same customers might be involved in all the different types of participation, but not necessarily at the same time and for the same purpose. People participating in the community are motivated differently based on which of the four types of activities they are involved in. Although it can be difficult to identify which consumers are involved in which activities, it is crucial to recognize that different types of motivational factors stimulate different forms of participation. This understanding implies that the company should determine what form of participation it wants from the consumers and try to motivate the consumers accordingly.

Expectations about gaining *social integrative benefits*, such as building friendships and finding belonging, appear to be the most important factor motivating people to participate in online support communities. Regardless of whether people are seeking help, giving help, participating in *reflective reframing*, or conducting *reinforcing* activities, they are motivated by the possibility of gaining *social integrative benefits*. As a result, it is quintessential for companies to help people gain *social integrative benefits* in the community in order to ensure an active and thriving community. One way in which the company can do this is to build friendships with the consumers in the community. By being friendly, informal, and interested in the consumers, the company employees can build relationships with the consumers beyond the more formal ones they develop in the form of functioning as forum managers, moderators, and helpers in the community.

People who are seeking help are motivated by the outlook of learning. For example, they might want to learn how the problem is solved so that they know how to fix it if they run into it at a later stage. This finding implies that, in order to make people seek help in the community rather than, for example, contacting the company's call center, the company should ensure that people can not only have their problems solved, but they can also learn and understand how the problem is solved. For example, in the communities I explore, everything that is posted in the community remains on the online forum. Hence, it is possible for people who had a problem solved at an earlier stage to come back to the community and retrieve the solution if the problem reoccurs later. Likewise, people can easily browse the forum to see if there already exists a solution to their problem before they post a question. Furthermore, questions and discussion threads are organized into different sub-forums based on topic. In this way, it is possible to find posts and threads that are relevant and related to the issue people want to learn about. In addition, people asking questions, those providing answers,

employees of the company, and forum members just reading the post, can tag the post with key words. This process makes it easy for people who want to learn about a specific topic to type key words into the forum search engine and be directed to relevant posts and threads. Finally, people can post useful instructional videos and written guidelines, which can make it easier for others to learn how a problem is solved.

Creating a community where consumers can find solutions to their problems, depends on having people who voluntarily dedicate their time and effort to helping others. People who are giving help in the community are motivated by the expectations of achieving *personal integrative benefits*. *Personal integrative benefits* have to do with the status and recognition people believe they can achieve by participating in the community, meaning that the company needs to provide ways in which people can increase and improve their standing and prestige within the community. To do so, companies can write posts thanking forum members for their contributions as well as enable people to give each other kudos and to mark each other's posts as helpful answers. In this way, the company can indirectly encourage people to help others by facilitating ways in which people can gain status and recognition in the community.

Hedonic benefits relate to the enjoyment people expect to derive from participating in the community. Like *personal integrative benefits*, expectations to gain *hedonic benefits* motivate people to give help, implying that consumers expect it to be fun and pleasurable to help others. Thus, the company should try to ensure that people have a good time when they are contributing to the community. Chances of gaining *hedonic benefits* also motivate people to get involved in *reinforcing* activities, which relate to thanking and giving credit to others. This finding suggests that people show their gratitude to others because they expect that it will also make them feel good themselves: it will help them to gain *hedonic benefits*. Therefore,

the company should ensure that there are mechanisms in place that enable people to show their appreciation of others' contributions.

Significantly, companies should understand that expectations about gaining *hedonic benefits* make it less likely that people will seek help in the community. This finding could imply that people avoid seeking help in the community because they expect it to be an emotionally stressful and not pleasurable experience. Hence, companies need to put extra effort into making sure that seeking help in the community is an enjoyable process. If people feel confident that seeking help in the community is fun and pleasurable, they might choose to seek help there rather than other places. Furthermore, if people who are already seeking help in the community find the process to be enjoyable, they might expect to gain further *hedonic benefits* and thus continue to use the community to seek for help.

To summarize, my findings imply that companies need to recognize that consumers are motivated differently based on which form of participation they are involved in. Hence, companies should identify what type of participation they want from the consumers, and seek to motivate them accordingly.

6.3 Additional issues need to be addressed

The discussion of the findings reveals topics where further research is needed, and the unexpected and surprising findings raise several questions. Furthermore, established research provides me with additional ideas on how to expand my work. At the same time, I recognize that there could be several potential limitations of this dissertation, and that some of the choices I have made might have restrained my work. These issues need to be addressed.

Hence, in the next chapter I discuss potential limitations and suggest avenues for further research.

7.0 LIMITATIONS, FURTHER RESEARCH, AND REFLECTION

In this chapter I first address possible limitations of this dissertation. Then I suggest possibilities for further research. Finally, I conclude by summarizing my own reflections regarding this dissertation.

7.1 Limitations

In line with Nambisan and Baron (2007, 2009), I hypothesize that *attitude towards the host firm* and *sense of partnership with the company* positively influence the four types of participation. However, I do not find any such relations. It could be that I would have come to the same result as Nambisan and Baron (ibid.) if I tested the influence of *attitude towards the host firm* and *sense of partnership with the company* on participation in general rather than on the four different forms of participation. However, more research is needed in order to determine the relevance of these two antecedents.

My research model includes antecedents of participation identified from established research on online support communities (Nambisan and Baron 2007, 2009, 2010). However, I do not include mediating and moderating effects from these studies (ibid.). In addition, established research tests the relation between the antecedents and participation in general (Nambisan and Baron 2007 and 2010) and between the antecedents on one hand and participation as two dependent variables on the other (Nambisan and Baron 2010). I test the relations between the antecedents and four different types of participation. Hence, a direct comparison of my findings with established research (Nambisan and Baron 2007, 2009, 2010) might be difficult.

However, my aim is not first and foremost to replicate established theory but rather to generate new insights.

I find that the discriminant validity between *social integrative benefits* and *personal integrative benefits* is poor. Thus it can be difficult to distinguish between the two variables. However, as Nambisan and Baron (2007, 2009) validate the scales and test *social integrative benefits* and *social integrative benefits* as two separate antecedents of participation, I decided to keep the antecedents separate. Doing so enables me to compare my findings with their (ibid.) results.

Common method bias might be a threat to the validity of the scales (Podsakoff et al. 2003, Podsakoff and Organ 1986, Tsai and Bagozzi 2014) because most of my scales are 1-5 scales. In addition, my scales include self-reported behavioral measures and perceptual responses. I control for common method bias through procedural remedies (Podsakoff et al. 2003, Podsakoff and Organ 1986) such as allowing anonymous answers and ensuring the respondents that there are no right answers. In addition, I order the scales so that the dependent variables follow rather than precede the independent variables, and I improve the items of the scales I develop myself by using clear and concise language. I also control for common method bias statistically by performing Harman's single factor test (Podsakoff et al. 2003). Having taken these precautions, I hope to have reduced the risk of common method bias, but it could still be difficult to be absolutely certain that common method bias is not a threat.

Based on cross-sectional data it is difficult to determine the causal direction between the independent and dependent variables. For example, I find a positive relation between people's

expectations about learning and *help seeking*. This could imply that people are motivated to seek help in the community because they expect to achieve *learning benefits*. However, there might also be a reverse causal mechanism: people's participation in the community might strengthen their beliefs that they will achieve *learning benefits*. Likewise, I find a negative relation between *hedonic benefits* and *help seeking*. It could be that expectations about achieving *hedonic benefits* makes it less likely that people will seek help in the community; conversely, it could also be that, as people seek for help in the community, they encounter negative experiences, and hence expect that further *help seeking* in the community will not be enjoyable.

7.2 Further research

Madupo and Cooley (2010) find that cultural differences exist in the motives for participation in online brand communities when comparing users in India and the US. The online support communities I study are based in Western-European countries. Testing my research model on communities based in different countries could have made it possible to determine whether my present results are applicable in other cultures, or if people are motivated differently and participate in different ways in different cultures. Hence, it would have been interesting to test my findings in other cultural settings.

Bendapudi and Leone (2003) study the self-serving bias in situations where the customer, together with the company, produces the exact product that the customer ends up using. They (ibid.) find that customers are far more likely to take credit than blame for the outcome in these situations. However, they (ibid.) also find that, when given a choice of whether to participate or not, customers are more willing both to take credit and to accept blame. The

customers in the community I studied do not generate customer service that they directly benefit from themselves; they either use the community as a way to get help from other customers, or they provide help to other customers. Consequently, the customers are not directly serving themselves; they are either serving others or they are served by other customers. This distinction raises several questions: would customers be more or less willing to share credit and blame with the company when they receive help from other customers as compared to situations when they solve the problems themselves? Would customers be more or less willing to share credit and blame with the company in situations when their problems are solved by other customers compared to situations when their problems are solved by the company? Thus, it would have been interesting to build on Bendapudi and Leone's (2003) findings, and test how the self-serving bias resolves in situations where other customers can take the role of the company in customer support settings.

Another interesting topic relates to customers' online identities. Research (e.g., Gelb and Sundaram 2002) suggests that in online settings, people might want to build an identity other than the one they have in real life. This finding implies that building an online identity that is different from their offline identity could motivate people to participate in online communities. Building an online identity does not necessarily concern the prospects to achieve *social integrative benefits* and *personal integrative benefits*, as my findings as well as Nambisan and Baron (2007, 2009) suggest as antecedents of participation. Rather, people might simply want to play a different role online than they do in their everyday offline lives. Hence, testing the ability to build an online identity as an additional antecedent of participation could yield new insights into why people participate. An additional, or alternative, perspective could be to look at people's attitudes towards their online avatars. Suh et al. (2011) find that the closer an avatar resembles its user, the more positive attitudes the

user has towards his or her avatar. Positive attitudes towards the avatar do in turn affect people's intentions to use their avatars in the virtual world (ibid.). Thus, future studies can test if positive attitudes towards the avatar positively influence people's intention to participate in the online community for customer support.

Hemetsberger and Reinhardt (2006) study learning and knowledge building in online communities, and suggest several ways in which learning can be enabled. Likewise, the communities I study provide different mechanisms that stimulate learning. At the same time, I find that expectations about learning are an important antecedent for *help seeking* in the community. Hence, it would have been interesting to identify and test ways in which companies can facilitate learning and thereby indirectly stimulate *help seeking* in the support community.

In line with the exploratory study as well as established research (e.g., Gelb and Sundaram 2002, Qian and Scott 2007, Huerta et al. 2012), I hypothesize that *anonymity* influences participation in the community. However, I do not find support for this relation. Hence, my dissertation leaves a mixed picture of whether or not the ability to be anonymous positively influences participation in online communities. More research, both qualitative and quantitative, is needed in order to paint a clearer picture of the influence of *anonymity* on participation. To further explore *anonymity*, future research could also consider other possible effects of *anonymity*, such as moderation. Although I do not find any support for this function in my literature review or in my exploratory study, other researchers might get other findings and reach different conclusions.

7.3 Reflection

By conducting an elaborate literature review, doing an exploratory study, and performing quantitative tests, I have been able to identify how consumers participate in online communities for customer support, detect antecedents of participation, and find ways in which companies can facilitate the antecedents. Some of the findings are in line with my prior expectations, while others contradict my assumptions as well as established research: participation in online communities for customer support is even more complex than I first thought. I realize that decisions I have made and actions I have taken could have been different. But given the focus of my study, I believe that my choices have enabled me to generate novel and relevant theoretical and managerial insights.

REFERENCES

- Bagozzi, Richard and Utpal M. Dholakia (2006), *Open source software user communities: A study of participation in Linux user groups*, Management Science, 52 (7), 1099-1115.
- Bagozzi, Richard P. and Youjae Yi (2012), *Specification, evaluation, and interpretation of structural equation models*, Journal of the Academy of Marketing Science, 40 (8), 8-34.
- Bagozzi, Richard P. and Youjae Yi (1988), *On the evaluation of structural models*, Journal of the Academy of Marketing Science, 16 (1), 74-94.
- Bendapudi, Neeli and Robert P. Leone (2003), *Psychological Implications of Customer Participation in Co-production*, Journal of Marketing 67 (January), 14-28.
- Benlian, Alexander, and Thomas Hess (2011), *The signaling role of IT Features in Influencing Trust and Participation in Online Communities*, International Journal of Electronic Commerce, 15 (4), 7-56.
- Casalao, Luis V.; Carlos Flavian, and Miguel Guinaliu (2013), *New members integration: Key factor of success in online travel communities*, Journal of Business Research, 66, 706-710.
- Casalao, Luis V.; Carlos Flavian, and Miguel Guinaliu (2011), *Antecedents and consequences of consumer participation in online communities: The case of the travel sector*, International Journal of Electronic Commerce, 15 (2), 137-167.

Casalao, Luis, V.; Carlos Flavian, and Miguel Guinaliu (2010), *Determinants of the intention to participate in firm-hosted online travel communities and effects on consumer behavioral intentions*, *Tourism Management*, 31, 898-911.

Casalao, Luis V.; Carlos Flavian, and Miguel Guinaliu (2008), *Promoting Consumers' participation in virtual brand communities: A new paradigm in branding strategy*, *Journal of Marketing Communications*, 14 (1), 19-36.

Cavallone, Mauro and Fabio Cassia (2012), *Co-design between consumers and companies: Roles, created-exchanged value and reward systems*, *The Marketing Review*, 12 (2), 199-218.

Chang, Aihwa; Sara H. Hsieh, and Frances Lin (2013), *Personality traits that lead members of online brand communities to participate in information sending and receiving*, *International Journal of Electronic Commerce*, 17 (3), 37-61.

Chang, Hsin Hsin and Shuang-Shii Chuang (2011), *Social capital and individual motivations on knowledge sharing: Participant involvement as moderator*, *Information & Management*, 48, 9-18.

Chen, Li; James R. Marsden, and Zhongju Zhang (2012), *Theory and analysis of company-sponsored value co-creation*, *Journal of Management Information Systems*, 29 (2), 141-172.

Chiu, Chao-Min; Meng Hsiang Hsu, and Eric T.G. Wang (2006), *Understanding knowledge sharing in virtual communities: An integration of social capital and social cognitive theories*, *Decision Support Systems*, 42, 1872-1888.

Cova, Bernard and Véronique Cova (2002), *Tribal marketing - The tribalisation of society and its impact on the conduct of marketing*, European Journal of Marketing, 36 (5/6), 595-620.

Dholakia, Utpal M.; Richard P. Bagozzi, and Lisa Klein Pearo (2004), *A social influence model of consumer participation in network- and small-group-based communities*, International Journal of Research in Marketing, 21, 241-263.

Dholakia, Utpal M.; Vera Blazevic, Caroline Wiertz, and Rene Algesheimer (2009), *Communal service delivery: How customers benefit from participation in firm-hosted virtual P3 communities*, Journal of Service Research (12 (2), 208-226.

Erden, Zeynep; Georg Von Krogh, and Seonwoo Kim (2012), *Knowledge sharing in an online community of volunteers: The role of community munificence*, European Management Review, 9, 213-227.

Fang, Yulin and Derrick Neufeld (2009), *Understanding sustained participation in open source software projects*, Journal of Management Information Systems, 25 (4), 9-50

Fornell, Claes and David F. Larcker (1981), *Evaluating Structural Equation Models with Unobservable Variables and Measurement Error*, Journal of Marketing Research, 18 (February), 39-50.

Füller, Johann (2010), *Refining virtual co-creation form a consumer perspective*, California Management Review, 52 (2), 98-122.

Füller, Johann (2006), *Why Consumers Engage in Virtual New Product Developments Initiated by Producers*, Advances in Consumer Research, 33, 639-646.

Füller, Johann; Michael Bartl, Holger Ernst, and Hans Mühlbacher (2006), *Community based innovation: How to integrate members of virtual communities into new product development*, Electron Commerce Research, 6, 57-73.

Füller, Johann; Kurt Matzler, and Melanie Hoppe (2008), *Brand Community Members as a Source of Innovation*, Journal of Product Innovation Management, 25, 608-619.

Füller, Johann; Hans Mühlbacher, Kurt Matzler, and Gregor Jaweck (2010), *Consumer empowerment through Internet-based co-creation*, Journal of Management Information Systems, 26 (3), 71-102.

Garnfeld, Ina; Anja Iseke, and Alexander Krebs (2012), *Explicit incentives in online communities: Boon or bane?*, International Journal of Electronic Commerce, 17 (1), 11-37.

Gelb, Betsy D. and Suresh Sundaram (2002), *Adapting to "word of mouse"*, Business Horizons, July-August, 21-25.

Grayson, Kent (2007), *Friendship Versus Business in Marketing Relationships*, Journal of Marketing, 71 (October), 121-139.

Hair, Joseph F. Jr.; William C. Black, Barry J. Babin, Rolph E. Anderson, and Ronald L. Tatham (2010), *Multivariate Data Analysis*, Sixth Edition, Pearson Prentice Hall, Upper Saddle River NJ.

Han, Xiaoyun; Robert J. Kwortnik Jr., and Chunxiao Want (2008), *Service Loyalty: An Integrative Model and Examination across Service Contexts*, *Journal of Service Research*, 11 (1), 22-42.

Hargadon, Andrew B. and Beth A. Bechky (2006), *When collections of Creatives Become Creative Collectives: A Field Study of Problem Solving at Work*, *Organization Science*, 17 (4), 481-500.

Hemetsberger, Andrea and Christian Reinhardt (2006), *Learning and Knowledge-building in Open-source Communities – A Social-experiential Approach*, *Management Learning*, 37 (2), 187-214.

Huerta, Esperanza; Stephen B. Salter, Philip A. Lewis, and Pamela Yeow (2012), *Motivating employees to share their failures in knowledge management systems: Anonymity and culture*, *Journal of Information Systems*, 26 (2), 93-117.

Janzik, Lars and Christina Raasch (2011), *Online communities in mature markets: Why join, why innovate, and why share?*, *International Journal of Innovation Management*, 4 (August), 797-836.

Jayanti, Rama K. and Jagdip Singh (2010), *Pragmatic Learning Theory: An Inquiry-Action Framework for Distributed Consumer Learning in Online Communities*, Journal of Consumer Research, 36 (6), 1058-1081.

Jeppesen, Lars Bo and Lars Fredriksen (2006), *Why Do Users Contribute to Firm-Hosted user Communities? The Case of Computer-Controlled Music Instruments*, Organization Science, 17 (1), 45-63.

Jin, Byoung-ho; Jin Yong Park, and Hye-Shin Kim (2010), *What makes online community members commit? A social exchange perspective*, Behaviour & Information Technology, 29 (6), 587-599.

Jin, Xiao-Ling; Matthew K. O. Lee, and Christy M. K. Cheung (2010), *Predicting continuance in online communities: model development and empirical test*, Behaviour & Information Technology, 29 (4), 383-394.

Koh, By Joon; Young-Gul Kim, Brian Butler, and Gee-Woo Bock (2007), *Encouraging participation in virtual communities*, Communications of the ACM, 50 (2), 69-73.

Kozinets, Robert (2010), *Netnography*, Sage, London.

Kozinets, Robert (1999), *E-Tribalized Marketing? The strategic Implications of Virtual Communities of Consumption*, European Management Journal, 17 (3), 252-264.

Kozinets, Robert; Andrea Hemetsberger and Hope Jensen Schau (2008), *The Wisdom of Consumer Crowds: Collective Innovation in the Age of Networked Marketing*, *Journal of Macromarketing*, 28 (4), 339-354.

Lee, Doohwang; Hyuk Soo Kim, and Jung Kyu Kim (2011), *The impact of online brand community type on consumer community engagement behaviors: Consumer-created vs. marketer-created online brand community in online social-networking web-sites*, *Cyberpsychology, Behavior, and Social Networking*, 14 (1-2), 59-63.

Lithium.com, *information retrieved from the front page January 26th 2015*.

Ma, Meng and Ritu Agarwal (2007), *Through a Glass Darkly: Information Technology Design, Identity Verification, and Knowledge Contribution in Online Communities*, *Information Systems Research*, 18 (1), 42-67.

Madupo, Vivek and Delonia O. Cooley (2010), *Antecedents and Consequences of online brand community participation: A conceptual framework*, *Journal of Internet Commerce*, 9, 127-147.

McAlexander, James H; John W. Schouten, and Harold F. Koenig (2002), *Building Brand Community*, *Journal of Marketing*, 66 (January), 38-54.

Miles, Matthew B. and Michael A. Huberman (1994), *Qualitative Data Analysis; An Expanded Sourcebook*, Second Edition, Sage, Thousand Oaks.

Muhdi, Lousie and Roman Boutellier (2011), *Motivational factors affecting participation and contribution of members in two different Swiss innovation communities*, International Journal of Innovation Management, 15 (3), 543-562.

Muniz, Albert M. Jr. and O'Guinn, Thomas C. (2001), *Brand Community*, Journal of Consumer Research, 27 (March), 412-432.

Nambisan, Satish and Robert A. Baron (2010), *Different roles, different strokes: organizing virtual customer environments to promote two types of customer contributions*, Organization Science, 21 (2), 554-572.

Nambisan, Satish and Robert A. Baron (2009), *Virtual Customer Environments: Testing a Model of Voluntary Participation in Value Co-Creation Activities*, Journal of Product Innovation Management, 26, 388-406.

Nambisan, Satish, and Robert A. Baron (2007), *Interactions in virtual customer environments: implications for product support and customer relationship management*, Journal of Interactive Marketing, 21 (2), 42-62.

Nov, Oded (2007), *What motivates Wikipedians?*, Communications of the ACM, 50 (11), 60-64.

Nov, Oded; Chen Ye, and Nanda Kumar (2012), *A social capital perspective on meta-knowledge contribution and social computing*, Decision Support Systems, 53, 118-126.

Nov, Oded; Naaman Mor, and Chen Ye (2010), *Analysis of Participation in an online photo-sharing community: A multidimensional perspective*, Journal of the American Society for Information Science and Technology, 61 (3), 555-566.

Nuttavuthisit, Krittinee (2010), *If you can't beat them, let them join: The development of strategies to foster consumers' co-creative practices*, Business Horizons, 53, 315-324.

Okazaki, Shintaro (2009), *Social influence model and electronic work of mouth, PC versus mobile Internet*, International Journal of Advertising, 28 (3), 439-472.

Phang, Chee Wei; Atrevi Kankanhalli, and Rajiv Sabherwal (2009), *Usability and sociability in online communities: A comparative study of knowledge seeking and contribution*, 10 (10), 721-747.

Podsakoff, Philip M.; Scott B. MacKenzie, Jeong-Yeon Lee, and Nathan P. Podsakoff (2003), *Common method biases in behavioral research: A critical review of the literature and recommended remedies*, Journal of Applied Psychology, 88 (5), 879-903.

Podsakoff, Philp M. and Dennis W. Organ (1986), *Self-reports in Organizational Research: Problems and Prospects*, Journal of Management, 12 (4), 531-544.

Prahalad, C.K. and Venkat Ramaswamy (2004), *The future of competition – co-creation unique value with customers*, Harvard Business School Press, Boston.

Price, Linda L. and Eric Arnould (1999), *Commercial Friendships: Service provider-client relationships in context*, Journal of Marketing, 63, 38-56.

Qian, Hua and Craig R. Scott (2007), *Anonymity and Self-Disclosure on Weblogs*, Journal of Computer-Mediated Communication, 12, 1428-1451.

Roberts, Deborah; Mathew Hughes, and Kia Kertbo (2014), *Exploring consumers' motivations to engage in innovation through co-creation activities*, European Journal of Marketing, 48, 147-169.

Roberts, Jeffrey A.; Il-Horn Hann, and Sandra A. Slaughter (2006), *Understanding the motivations, participation, and performance of open source software developers: A longitudinal study of the Apache projects*, Management Science, 52 (7), 984-999.

Schaedel, Ute and Michel Cimet (2010), *Managing the online crowd: Motivations for engagement in user-generated content*, Journal of Media Business Studies, 7 (3), 17-36.

Schouten, John W. and James H. McAlexander (1995), *Subcultures of Consumption: An Ethnography of the New Bikers*, Journal of Consumer Research, 22 (June), 43-61.

Schulz, Celine and Stefan Wagner (2008), *Outlaw community innovations*, International Journal of Innovation Management, 12 (3), 399-418.

Shah, Sonali K (2006), *Motivation, Governance, and the Viability of Hybrid Forms in Open Source Software Development*, Management Science, 52 (7), 1000-1014.

Shen, Kathy Ning; Angela Yan Yu, and Mohamed Khalifa (2010), *Knowledge contribution in virtual communities: Accounting for multiple dimensions of social presence through social identity*, Behavior & Information Technology, 29 (4), 337-348.

Shih, Pai Cheng; Hsin-Yun Hu, and Cheng-Kiang Farn (2010), *Lead user participation in brand community: The case of Microsoft MVPS*, International Journal of Electronic Business Management, 8 (4), 323-331.

Spiggle, Susan (1994), *Analysis and Interpretation of Qualitative Data in Consumer Research*, Journal of Consumer Research, 21 (3), 491-503.

Suh, Kil-Soo; Hongki Kim, and Jung Kyo Suh (2011), *What If Your Avatar Looks Like You? Dual-Congruity Perspectives For Avatar Use*, Management Information Systems, 35 (3), 2011.

Suler, John (2004), *The online disinhibition effect*, Cyberpsychology & Behavior, 7 (3), 321-326.

Sun, Yongqiang; Yulin Fang, and Kai H. Lim (2012), *Understanding sustained participation in transactional virtual communities*, Decision Support Systems, 53, 12-22.

Sung, Yongjun; Yoojung Kim, Ohyon Kwon, and Jangho Moon (2010), *An explorative study of Korean consumer participation in virtual brand communities in social network sites*, Journal of Global Marketing, 23, 430-445.

Thompson, Craig (1997), *Interpreting Consumers: A Hermeneutical Framework for Deriving Marketing Insights from the Texts of Consumers' Consumption Stories*, *Journal of Marketing Research* 34 (4), 438-455.

Thompson, Craig J; Howard R. Pollio; and William B. Locander (1994), *The Spoken and the Unspoken: A Hermeneutic Approach to Understanding the Cultural Viewpoints That Underlie Consumers' Expressed Meanings*, *Journal of Consumer Research*, 21 (3), 432-452.

Tsai, Hsien-Tung and Richard P. Bagozzi (2014), *Contribution behavior in virtual communities: Cognitive, emotional, and social influences*, *MIS Quarterly* 36 (1), 143-163.

Tsai, Hsien-Tung; Heng-Chiang Huang, and Ya-Ling Chiu (2012), *Brand community participation in Taiwan: Examining the roles of individual-, group-, and relationship-level antecedents*, *Journal of Business Research*, 66, 676-684.

Tsai, Hsien-Tung, and Peiyu Pai (2014), *Why do newcomers participate in virtual communities? An integration of self-determination and relationship management theories*, *Decision Support Systems*, 57, 178-187.

Vassileva, Julita (2012), *Motivating participation in social computing applications: A user modeling perspective*, *User Modeling & User-Adapter Interaction*, 22, 177-208.

Vernette, Eric and Linda Hamdi-Kidar (2013), *Co-creation with consumers: Who has the competence and wants to cooperate?*, *International Journal of Market Research*, 55 (4), 2-20.

Wang, Yonggui; Jianfeng Wu, and Zhilling Yang (2013), *Consumer participation and project performance: The mediating role of knowledge sharing in the Chinese telecommunication service industry*, Journal of Business-to-Business Marketing, 20, 227-244.

Wang, Youcheng and Daniel R. Fesenmaier (2004), *Towards understanding members' general participation in and active contribution to an online travel community*, Tourism Management, 25, 709-722.

Wasko, Molly McLure and Samer Faraj (2005), *Why should I share? Examining social capital and knowledge contribution in electronic networks of practice*, MIS Quarterly, 29 (1), 35-57.

Woisetschläger, David M.; Vivian Hartleb, and Markus Blut (2008), *How to make brand communities work: Antecedents and consequences of consumer participation*, Journal of Relationship Marketing, 7 (3), 237-256.

Xu, Bo; Dahui Li, and Gingjia Shao (2012), *Knowledge sharing in virtual communities: A study of citizenship behavior and its social-relational antecedents*, International Journal of Human-Computer Interaction, 28, 347-359.

Yen, HsiuJu Rebecca; Sheila Hsuan-Yu Hsu, and Chun-Yao Huang (2011), *Good Soldiers on the Web: Understanding the drivers of participation in online communities of consumption*, International Journal of Electronic Commerce, 15 (4), 89-120.

- Yi, Youjae and Taeshik Gong (2013), *Customer value co-creation behavior: Scale development and validation*, Journal of Business Research, 66, 1279-1284.
- Yin, Robert K (2009), *Case Study Research – Design and Methods*, Sage, London.
- Yoon, Cheolho, and Erik Rolland (2012), *Knowledge-sharing in virtual communities: familiarity, anonymity and self-determination theory*, Behaviour & Information technology, 31 (11), 1133-1143.
- Zhao, Kexin; Antonis C. Stylianou, and Yiming Zheng (2013), *Predicting users' continuance intention in virtual communities: The dual intention-formation process*, Decision Support Systems, 55, 903-910.
- Zhao, Ling; Yaobin Lu, Bin Wang, Patrick Y.K. Chau, and Long Zhang (2012), *Cultivating the sense of belonging and motivating user participation in virtual communities: A social capital perspective*, International Journal of Information Management, 32, 574-588.
- Zheng, Li; Dahui Li, and Wenhua Hou (2011), *Task design, motivation, and participation in crowdsourcing contests*, International Journal of Electronic Commerce, 15 (4), 57-88.
- Zheng, YiMing; Kexin Zhao, and Antonis Stylianou (2013), *The impacts of information quality on users' continuance intention in information-exchange virtual communities: An empirical investigation*, Decision Support Systems, 96, 513-524.

Zhou, Zhimin; Jane Peihsun Wu, Qiyuan Zhang, and Shen Xu (2013), *Transforming visitors into members in online brand communities: Evidence from China*, *Journal of Business Research*, 66, 2438-2443.

Zwass, Vladimir (2010), *Co-Creation: Toward a Taxonomy and Integrated Research perspective*, *International Journal of Electronic Commerce*, 15 (1), 11-48.

APPENDICES

Appendix 1: Antecedents of participation in online communities

In the following table I first alphabetically list the studies that have tested antecedents of participation in online communities. Following that, I present the names of the specific antecedents that these studies have tested. Then I list the types of participation the different antecedents influence. Some of the types of participation (e.g., information sharing: Nov et al. 2010) are marked with a minus-sign in parentheses (-). This indicates that the relevant antecedent (in this case self-development) is negatively related to the type of participation (here information sharing). Some researchers measure actual participation (e.g., participation: Nambisan and Baron 2007, 2009, Casalao et al. 2011, Roberts et al. 2006, Participation duration: Chen et al. 2012, knowledge contribution: Shen et al. 2010). Out of these, most ask the consumers about their actual participation in the community (e.g., Tsai et al. 2012, Jin Byounggho et al. 2010, Wang and Fesenmaier 2004), while some are able to retrieve actual data about the consumers' participation (e.g., Nambisan and Baron 2007, 2009, Chen et al. 2012, Shen et al. 2010). The latter are marked in the table with an r in parentheses (r). Other researchers measure the consumers' intentions to participate (e.g., intention to participate: Casalo et al. 2010, continuance intention: Sun et al. 2012, intention to provide info: Zhao et al. 2013). In addition, some researchers find that the same antecedent is related to several types of participation. For example, expertise enhancement influences both contribution to community and contribution to company (Nambisan and Baron 2010). Although not included in the table, some researchers (e.g., Tsai and Pai 2014, Dholakia et al. 2004, Tsai and Bagozzi 2014, Bagozzi and Dholakia 2006) take a step-wise approach to measure participation. For example, Tsai and Bagozzi (2014) measure how different antecedents influence desire to participate, which influences participation we-intentions, which in turn influence actual contribution behavior. For the purpose of this overview, I include the antecedents (e.g., social

identity: Tsai and Bagozzi 2014) and the type of participation the antecedents influence (e.g., desire to contribute: Tsai and Bagozzi 2014). However, when discussing participation in more detail, I also draw on important insights on how, in this case, desire to participate ultimately influences actual participation (Tsai and Bagozzi 2014).

The table also specifies the focus of the online communities: brand, interests, innovation, or customer support. Members of communities dedicated to a brand (e.g., Chang et al. 2013, Nov et al. 2012) tend to be concerned with, for example, helping others with how to use the brand, telling stories about their own usage and relations to the brand, and trying to recruit new consumers to use the brand. Communities that are built around interests (e.g., Casalao et al. 2013, Nov et al. 2012) are not connected to one specific brand or a specific product.

Rather, the members focus on a shared hobby or interest such as bicycling, hiking, or photography, or on shared political interests or specific causes. The communities I group as innovation concentrate on innovating, improving, or designing products such as open source software. Finally, members of online communities for customer support focus on helping each other with customer support-related problems in relation to a specific brand or product. In my research model, I intend to include only antecedents that have been found to significantly influence participation in online communities for customer support. Hence I find it necessary to distinguish between these types of online communities and other types of communities.

However, since I also want to draw on insights from related and similar antecedents that have been tested in other settings, I point out what the other communities are focusing on as well.

Reviewing the papers, I find it important to be aware of the purpose of the community, as people tend to be motivated differently based on the type of community. For example, people participating in innovating open source software are able to immediately benefit from their

own contributions, while members of other types of communities might never be able to see the same personal benefits (e.g., Füller 2010).

Study	Tested antecedent	Participation	Community focus			
			Brand	Interest	Innovate	Cust.sup.
Bagozzi and Dholakia (2006)	Perceived behavioral control	Participation we-intentions			X	
	Attitudes towards participation	Participation we-intentions			X	
	Negative anticipated emotions	Participation we-intentions			X	
	Social identity	Participation we-intentions			X	
Benlian and Hess (2011)	Usability	Participation		X		
	Quality assured content	Participation		X		
	Security	Participation		X		
	Privacy	Participation		X		
	Interpersonal trust	Participation		X		
	System trust	Participation		X		
Casalo et al. (2013)	Integration	Intention to participate		X		
	Perceived reciprocity	Intention to participate		X		
	Satisfaction	Intention to participate		X		
Casalo et al. (2011)	Perceived usefulness	Participation		X		
	Satisfaction	Participation		X		
Casalo et al. (2010)	Affective commitment	Participation		X		
	Perceived usefulness	Intention to participate		X		
	Attitude towards participation	Intention to participate		X		
	Subjective norms	Intention to participate (-)		X		
	Identification	Intention to participate		X		
Casalo et al. (2008)	Perceived behavioral control	Intention to participate		X		
Chang et al. (2013)	Trust	Intention to participate	X			
	Identification with community	Intention to receive information, Intention to send information	X			
Chang and Chuang (2011)	Value consciousness	Intention to receive information	X			
	Social interaction	Quality of shared knowledge	X	X	X	
	Trust	Quality of shared knowledge	X	X	X	
	Identification	Quality of shared knowledge, Quantity of shared knowledge	X	X	X	
	Reciprocity	Quality of shared knowledge, Quantity of shared knowledge	X	X	X	
	Shared language	Quality of shared knowledge, Quantity of shared knowledge	X	X	X	
	Reputation	Quality of shared language	X	X	X	
	Altruism	Quality of shared knowledge, Quantity of shared knowledge	X	X	X	
Chen et al. (2012)	Individual connectedness	Participant duration (r)			X	
	Peer feedback	Number of ideas (r), Participant duration (r)			X	
	Sponsoring firm feedback	Number of quality ideas(r)			X	
	Sponsoring firm responsiveness	Number of ideas (r), Number of quality ideas (r), Participant duration (r)			X	
Dholakia et al. (2004)	Group norms	Participation we-intentions		X		
	Social identity	Desire to participate		X		
	Mutual agreement	Desire to participate		X		
Erden et al. (2012)	Community Munificence	Intention to share knowledge	X	X		
Füller et al. (2010)	Experienced enjoyment	Intention of future participation			X	
	Perceived empowerment	Intention of future participation			X	
Füller et al. (2008)	Task motivation	Participation interest	X			
	Skills	Participation interest	X			
	Innovativeness	Participation interest	X			
	Task involvement	Participation interest	X			
	Brand trust	Participation interest	X			
Füller (2006)	Monetary rewards	Interest in further participation (-), Future participation frequency	X	X	X	
	Show ideas	Interest in further participation	X	X	X	
	Intrinsic innovation interest	Interest in further participation, Future participation frequency	X	X	X	
	Curiosity	Interest in further participation	X	X	X	
Garnfeld et al. (2012)	Monetary incentives	Short-term posting intentions		X		
	Explicit norms	Short-term posting intentions		X		
Jeppesen and Fredriksen (2006)	Lead-user characteristics	User innovation			X	
	Firm recognition	User innovation			X	
	Hobbyist status	User innovation			X	
Jin Xiao-Ling et al. (2010)	User satisfaction	Continuance intention		X		
	Affective commitment	Continuance intention		X		
Jin Byoung-ho et al. (2010)	Sociability attribute	Active participation	X	X		
Koh et al. (2007)	Offline interaction	Posting activity (r)		X		
	Perceived usefulness	Viewing activity (r)		X		
Lee et al. (2011)	Social identification	Engagement intention	X			

Ma and Agarwal (2007)	Intrinsic altruism	Engagement intention	X			
Muhdi and Boutellier (2011)	Perceived identity verification	Knowledge contribution	X	X		
	Rewards	Participation			X	
	Learning	Participation			X	
	Sense of efficiency	Participation			X	
Nambisan and Baron (2010)	Responsibility to community	Contribution to community (r)				X
	Self-image enhancement	Contribution to community (r)				X
	Expertise enhancement	Contribution to community (r), Contribution to company (r)				X
	Partnership with company	Contribution to company (r)				X
Nambisan and Baron (2009)	Hedonic benefits	Participation (r)				X
	Social integrative benefits	Participation (r)				X
	Personal integrative benefits	Participation (r)				X
	Learning benefits	Participation (r)				X
Nambisan and Baron (2007)	Learning benefits	Participation (r)				X
	Social integrative benefits	Participation (r)				X
	Personal integrative benefits	Participation (r)				X
	Hedonic benefits	Participation (r)				X
	Attitude towards the firm	Participation (r)				X
Nov et al. (2012)	Self-motivation	Meta-knowledge contribution (r)		X		
	Others-motivation	Meta-knowledge contribution (r)		X		
	Structural embeddedness	Meta-knowledge contribution (r)		X		
	Relational embeddedness	Meta-knowledge contribution (r)		X		
Nov et al. (2010)	Tenure	Information-sharing (r) (-), Meta-information sharing (r), One to one connections (r), One to many connections (r)		X		
	Enjoyment	One to one connections, One to many connections		X		
	Commitment	Information sharing (r), Meta-information sharing (r) (-), One to many connections (r) (-)		X		
	Self-development	Information sharing (r) (-), Meta-information sharing (r), One to one connections (r), One to many connections (r)		X		
	Reputation building	Meta-information sharing (r), One to one connections (r), One to many connections (r)		X		
Nov (2007)	Fun	Contribution		X		
	Values	Contribution		X		
	Understanding	Contribution		X		
	Enhancement	Contribution		X		
	Protective	Contribution		X		
	Career	Contribution		X		
Okazaki (2009)	Purposive value	Desire to participate	X			
	Social enhancement	Desire to participate	X			
	Intrinsic enjoyment	Desire to participate	X			
	Inherent novelty seeking	Desire to participate	X			
	Social identity	Desire to participate	X			
Phang et al. (2009)	Perceived usability	Knowledge seeking, Knowledge contribution		X		
	Perceived sociability	Knowledge seeking, Knowledge contribution		X		
Roberts et al. (2006)	Status and opportunity motives	Participation (r)				X
	Extrinsic motives	Participation (r)				X
	Use value motives	Participation (r) (-)				X
Schaedel and Clement (2010)	Social status	Time exposure		X		
Schulz and Wagner (2008)	Improve skills	Participation				X
	Intellectual challenge	Participation				X
	Solving problems together	Participation				X
	Fun	Participation				X
Shen et al. (2010)	Awareness of social presence	Knowledge contribution (r)		X		
	Affective social presence	Knowledge contribution (r)		X		
	Cognitive social presence	Knowledge contribution (r)		X		
	Social identity	Knowledge contribution (r)		X		
Sun et al. (2012)	Extrinsic motivation	Continuance intention		X		
	Intrinsic motivation	Continuance intention		X		
Sung et al. (2010)	Brand likeability	Participation intention	X			
	Incentive seeking	Participation intention	X			
	Convenience seeking	Participation intention	X			

Tsai and Bagozzi (2014)	Interpersonal utility	Participation intention	X		
	Anticipated emotions	Desire to contribute		X	
	Group norms	Desire to contribute		X	
	Social identity	Desire to contribute		X	
Tsai and Pai (2014)	Attitudes toward contribution	Desire to contribute		X	
	Affective social identity	Participation intentions		X	
	Evaluative social identity	Participation intentions		X	
Tsai et al. (2012)	Extraversion	Member interaction, Activity involvement	X		
	Need for affiliation	Member interaction, Activity involvement	X		
	Identification	Member interaction, Activity involvement	X		
	Perceived critical mass	Member interaction, Activity involvement	X		
	Relational trust	Member interaction, Activity involvement	X		
	Verette and Hamdi-Kidar (2013)	Lead-user characteristics	Engagement	X	X
Emergent nature characteristics		Engagement	X	X	X
User competence		Engagement	X	X	X
Wang and Fesenmaier (2004)	Functional benefits	Level of involvement (-)		X	
	Social benefits	Level of involvement		X	
	Hedonic benefits	Level of involvement		X	
	Instrumental incentives	Level of contribution		X	
	Efficacy incentives	Level of contribution		X	
	Expectancy incentives	Level of contribution		X	
	Woisetschläger et al. (2008)	Community identification	Participation	X	
Community satisfaction		Participation	X		
Degree of influence		Participation	X		
Xu et al. (2012)	Attachment motivation	Citizenship knowledge sharing behavior	X	X	
	Social support orientation	Citizenship knowledge sharing behavior	X	X	
	Disposition to trust	Citizenship knowledge sharing behavior	X	X	
Yen et al. (2011)	Cooperative norms	In-role participation, Extra-role participation		X	
	Effectiveness of online community management	In-role participation, Extra role participation		X	
	Self-enhancement	In-role participation, Extra-role participation		X	
	Rewards	Extra-role participation		X	
	Problem-solving support	Extra-role participation		X	
	Technology readiness	In-role participation, Extra-role participation		X	
Yoon and Rolland (2012)	Perceived competence	Knowledge sharing behavior	X	X	
	Perceived relatedness	Knowledge sharing behavior	X	X	
Zhao et al. (2013)	Tenure	Intention to consume info.		X	
	Extent of usage	Intention to provide info.		X	
	Information benefits	Intention to consume info., Intention to provide info.		X	
	Social benefits	Intention to consume info.		X	
	Visibility benefits	Intention to provide info.		X	
	Altruistic benefits	Intention to consume info., Intention to provide info.		X	
Zhao et al. (2012)	Familiarity	Intention to share knowledge	X		
	Sense of belonging	Intention to get knowledge, Intention to share knowledge	X		
Zheng et al. (2013)	Perceived similarity	Intention to get knowledge	X		
	Perceived individual benefits	Continuance intention to provide information, Continuance intention to consume information		X	
	User satisfaction	Continuance intention to provide information, Continuance intention to consume information		X	
Zheng et al. (2011)	Gain recognition	Participation intention			X
	Intrinsic motivation	Participation intention			X
	Trust	Participation intention			X
Zhou et al. (2013)	Information value	Participation intention	X		
	Perceived social value	Participation intention	X		
	Viewing posts	Participation intention	X		

TABLE A: ANTECEDENTS OF PARTICIPATION IN ONLINE COMMUNITIES

Appendix 2: Interview guide for forum managers

- 1) Background
 - a. Short description of present job
- 2) About the forum
 - a. Why did you decide to go for a forum?
 - b. When did you decide, and how long did the process take?
 - c. How many employees are working with the forum?
 - i. How are they organized?
 - d. What other social media platforms do you use? (Twitter, Facebook, Youtube?)
 - i. How do you use them?
 1. Monitor, offer help, own sites and postings
 - ii. How are they integrated?
- 3) What benefits have you gained from the forum so far, and what further advantages do you expect?
 - i. For the company?
 - ii. For customers?
- 4) Company role in forum
 - a. What do you regard as most important for building a successful forum?
 - b. What are your own experiences with the forum?
 - c. What do you regard as important when communicating with community members?
 - d. What is the role of the moderators?
 - i. How and why do the moderators intervene?
 - ii. Any critical incidences or conflicts
 1. Learned most from?
- 5) Motivation
 - a. Why do people join, contribute to, and participate in the forum?
- 6) Rewards
 - a. How do you help the community survive over time?
 - b. What kind of rewards do you offer?
 - i. Titles, ranking, kudos (Different titles with different levels, Stars vs. kudos)?
 - ii. Other types of rewards online or offline?
 - iii. Would you consider other types of reward?
 - c. How important do you think these rewards are for consumers?
- 7) In your opinion, do people communicate differently (formal/informal/positive negative) in the online forum than they would have done offline?

a. How important is anonymity/the ability to not reveal real identities?

8) Additional comments/thoughts/questions

Appendix 3: Interview guide helpers

- 1) About the forum and your job as a helper
 - a. What are your most important tasks?
 - b. What do you regard as most important when communicating with community members?
 - c. How do you intervene in discussions with community members?
 - d. What does it take for you to intervene in an ongoing discussion and/or post an answer to a question?
 - e. What do you consider most important for keeping the forum active?

- 2) About the consumers
 - a. Why do you think people join, contribute to, and participate in the forum?
 - b. How do you think forum members consider feedback from you (as a helper) compared to feedback from other consumers?
 - c. Do people respond differently to feedback from you compared to feedback from other consumers?

- 3) Rewards
 - a. How important do you think the different types of “rewards” are for the customers participating in the forum (stars, titles, kudos, etc.)?
 - b. If you were to decide, would you consider any other type of rewards (both online and offline)?

- 4) What do you consider the most important advantages of the forum:
 - i. For the company?
 - ii. For customers?

- 5) Additional comments/thoughts/questions

Appendix 4: Interview guide for moderators

- 1) About the forum and your job as moderator:
 - a. What are your most important tasks?
 - b. What do you regard as most important when communicating with community members?
 - c. How do you intervene in discussions with community members?
 - d. What does it take for you to intervene in an ongoing discussion?
 - e. What do you consider most important for keeping the forum active?

- 2) About the consumers
 - a. Why do you think people join, contribute to, and participate in the forum?
 - b. How do you think forum members consider feedback from you (as a moderator) compared to feedback from other consumers?
 - c. Do people respond differently to feedback from you compared to feedback from other consumers?

- 3) Rewards
 - a. How important do you think the different types of “rewards” are for the customers participating in the forum (stars, titles, kudos, etc.)?
 - b. If you were to decide, would you consider any other type of rewards (both online and offline)?

- 4) What do you consider the most important advantages of the forum:
 - i. For the company?
 - ii. For customers?

- 5) Additional comments/thoughts/questions

Appendix 5: Interview guide for consumers

1) Background

- a. For how long have you been active on the forum?
- b. Are you active on other online help and support forums?
 - i. What are the main differences between those forums and this forum?
- c. How much time do you spend on the forum (hours a day/number of posts a day)?
- d. What type of questions or discussions do you spend most time on?
 - i. How do you identify interesting topics to follow up?

2) Communication within the forum

- a. How do you think forum members consider feedback from you?
- b. How do you think other forum members consider feedback from you compared to feedback from moderators or forum agents?
 - i. Do people respond and react differently?
 - ii. Who is most influential: consumers or moderators/helpers?
- c. Do you respond or react differently to feedback from moderators/helpers compared to feedback from other forum members?
- d. What do you regard as most important when communicating with:
 - i. With moderators/helpers?
 - ii. With other forum members?

3) The role of moderators and forum agents

- a. What do you think of their role in the forum?
- b. What do you consider to be their most important tasks?
- c. What do you think of the way the moderators intervene in discussions, and communicate with people on the forum?
- d. What do you think they could have done differently?

4) Motivation

- a. What motivates you to take an active role in the community?

5) Rewards

- a. How important are the different types of “rewards” (titles, kudos, personalized avatars, etc.)?
- b. If you were to decide, would you consider any other type of rewards (both online and offline, financial etc.)?

6) What do you consider the most important advantages of the forum:

- i. For the company?
- ii. For customers?

- 7) Do people communicate differently (formal/informal/positive/negative) in the online forum than they would have done offline?
 - a. Importance of being anonymous
 - b. Make own avatar and create online identity
 - c. Does anonymity affect the way you communicate?
- 8) If you were to design the ideal forum; what would it be like?
 - a. How should it differ from today's forum?
- 9) Additional comments/thoughts/questions

Appendix 6: List of codes applied in the analysis of the data of the exploratory study

Code name	Number of times used
Advise	12
Advisor/forum agent	13
Anonymity	22
Ask for help	2
Ask for reciprocity	1
Attack	4
Background	20
Background customer	16
Benefits company	77
Benefits customers	23
Challenging the company	48
Company challenge	12
Company customer communication	120
Complacency	10
Complaint	23
Critical incidence	4
Customer activities	36
Customer-customer communication	82
Defend company	14
Forum evaluation	4
Forum manager role	12
Help from company	6
Improvement suggestions	27
Legitimacy	18
Moderator role	119
Motivation consumers	81
Online communication	14
Online vs. offline	8
Punishment from company	7
Reward	123
Self defense	5
Social media strategy	97
Structured message from company	4
Success factor	47
Sympathy from company	6
Topic	1

TABLE B: LIST OF CODES APPLIED IN THE EXPLORATORY STUDY

Appendix 7: Community description pretest

Please read the following text carefully. It is important to read the text in order to answer the questions. Imagine that your main telecom-provider has set up an online forum for customer support. The purpose of the forum is to have customers help each other out with support-related issues, rather than having the customers contacting the company when they face a problem. The forum is a supplement to the existing customer support channels, and does not replace any of them. On the forum, customers and company representatives discuss issues related to the products and services the company delivers, they discuss related topics and technologies, they discuss more general issues related to the company, and they even discuss topics not related to the company at all. Some customers spend a lot of time helping other customers, some just want to be social, while other customers take a passive role and just visit the forum once in a while to find solutions to their own problems. People also participate by tagging existing posts in order to make it easier to navigate the forum. The company puts a lot of effort into motivating customers to help others out by making sure that the ones contributing achieve various non-financial benefits, such as recognition on the forum. Furthermore, the company tries to make the forum an enjoyable and social place to be, by for example keeping an informal and friendly tone when communicating with the customers on the forum, and by monitoring and moderating the forum. Finally, the company strives to ensure that the customers get their problems solved, preferably through help from other customers. If other customers are not able to help, employees of the company will step in and assist. Imagine that you are a member of the forum. Please answer the following questions based on how you think you would participate on the forum. You can also draw from experiences you might have from participation in other online forums.

Appendix 8: Print screen of the survey announcement in the forum

Help & Support Forum

Community Search

Check your service status Cable National

Register Sign in Forum help

Welcome to our Help & Support forum. This is where you can get help from our forum community, share your experiences and your own answers.
This forum is for community based support. If you've got a problem with one of our services and need to talk to us directly or it's an urgent problem, please [contact us](#).

New to this forum?
Why not register and join the community? [Register](#) [Sign in](#)

Forums

Welcome & Announcements (1 Item)

Title	Posts
Announcements The latest forum news and announcements. Latest Post - Re: Traffic Management trial	89

Broadband (8 Items)

Title	Posts
Up to 30Mb - Speed Problem with your broadband speed? Ask the community for help here. Latest Post - Re: Problems in SO19 - packet loss/high latency/we...	11587
Up to 30Mb - Setup, Equipment & Connection Ask the community for help with your connection or equipment problems. Latest Post - Re: Access to box and splitter upgraded to 30m and...	167087
Up to 60Mb - Speed Problem with your broadband speed? Ask the community for help here. Latest Post - Slow Internet Page Loading Times	10289
Up to 60Mb - Setup, Equipment & Connection Ask the community for help with your connection or equipment problems. Latest Post - Re: VOIP Problem since R37 upgrade	120350
Up to 120Mb - Speed Problem with your broadband speed? Ask the community for help here. Latest Post - Re: 100Mb upgraded but no difference	10690
Up to 120Mb - Setup, Equipment & Connection Ask the community for help with your connection or equipment problems. Latest Post - Re: Virgin Media don't support VPNs properly Use...	34586

Hi! How's it going?
Welcome to the Community.
Settle in and get comfortable, we'd love to see you get involved!
We have a [guide](#) to get you started, you can follow it step by step to find the best way to get an answer.

Announcements
Take part in a research project
Njal from the Norwegian School of Economics (NHH) is inviting users of the community to complete a survey for his research project. The survey consists of 10 questions, and everyone who completes the survey can enter a draw to win an iPad.
If you're interested you can [complete the survey](#) or discuss it further [here](#).

New Helpful Answers
[web site not found](#)
Web space
[WN2 area - Broadband speeds slowing to a crawl](#)
...
[Up to 30Mb - Speed](#)
[Connection Drops Out - No Solution?](#)
[Up to 100Mb - Setup, Equipment &](#)

Appendix 9: Print screen of the survey discussion thread in the forum

The screenshot shows a forum thread with four posts. The first post is by user 'Njal' (Just joined, 4 posts, registered 14-12-2012) with the title 'Take a survey about the Help&Support Forum - Win an iPad'. The post content includes a greeting, a request for survey participation, and a link to the survey. The second post is by 'Forum Manager' (2,789 posts, registered 04-08-2009) with the title 'Re: Take a survey about the Help&Support Forum - Win an iPad', confirming Njal's identity and encouraging participation. Below this post is a 'Help & Support Forum Manager' section with three boxes: 'Seen a useful post?' (1 Kudos), 'Problem solved?' (Helpful Answer), and 'Fault with your service?' (Service Status page). The third post is by 'Tech Wizard III' (3,829 posts, registered 08-03-2010) with the title 'Re: Take a survey about the Help&Support Forum - Win an iPad', stating 'will do just now' and 'I work for [redacted] and my posts are my own opinions'. The fourth post is by 'Knows the ropes II' (565 posts, registered 04-11-2012) with the title 'Re: Take a survey about the Help&Support Forum - Win an iPad', stating 'Yup also happy to do it if it helps.' and 'Sorry when it says on the first page "Please answer 5 on this question" is this an anti bot measure?'. The forum interface includes navigation links like 'Reply', 'Topic Options', 'Message listing', and 'Previous/Next Topic', as well as 'Kudos' and 'Reply' buttons for each post.