

Value Co-Creation in Firm Sponsored Online Communities of Interest: Enablers, Constraints, and Shaper

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CERTIFICATE OF ORIGINAL AUTHORSHIP

I, Diah Priharsari declare that this thesis, submitted in fulfilment of the requirements for the award of Doctor of Philosophy, in the School of Information, Systems and Modelling/Faculty of Engineering and Information Technology at the University of Technology Sydney.

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ABSTRACT

Recent studies in information systems and organization science have shown that online communities are devoid of a traditional structure mechanism. The lack of authority of the sponsoring firm in online communities raises questions about how to orchestrate all members of an online community. The firm is assumed to have the responsibility to coordinate value co-creation which is then called orchestration. Considering the importance of value co-creation in online communities in the information systems field, and considering that our understanding of the orchestration of value co-creation in online communities is underdeveloped, this study aims to examine firm sponsored online communities to understand what shapes, enables, and constrains value co-creation. Among different types of online communities, this study focuses on communities of interest.

From a theoretical point of view, this thesis uses service dominant logic (SDL), particularly the service ecosystem and sociomateriality as well as a critical realist approach, to investigate two case studies in Indonesia. First, a Systematic Literature Review (SLR) is conducted to provide a comprehensive understanding of the existing literature. Next, this study uses a multiple case study approach to collect and examine empirical evidence from two similar online communities.

The key findings are: i) the study has revealed four types of firm sponsored online communities which differ in the level of the members' self-organization and the output of the community for the sponsoring firm: Open Source Communities, Commercial Communities, Communities of Interest, and Crowdsourcing; ii) a set of enablers and constraints in online communities is uncovered and outlined; iii) value co-creation is shaped through the firm roles as a facilitator and co-creator and through the fluidity of the online community which are represented by three responses (Consensus Making, Consensus Settlement, and Changing Boundaries).

The research makes several significant contributions to theoretical knowledge, methodology and practice. First, it proposes a new way to view types of firm sponsored online communities and offers a novel model that elaborates the dynamic nature of the co-creation ecosystem in firm sponsored online communities. Second, it contributes to SDL theory by bridging the abstract level explanation of SDL into empirical and observable levels. Third, it develops a further understanding of sociomateriality in fluid organizations. Fourth, it demonstrates how to conduct multiple critical realist case studies. Last, this study offers important practical implications for designing co-creation strategies and for

improving co-creation practices, by delineating the resources that can influence value co-creation in online communities.

CHAPTER 1 INTRODUCTION

Firm sponsored online communities have been described as initiatives sponsored by a firm to co-create value with their external product or service users (Yan, Leidner & Benbya 2018). Firms are increasingly considering online communities to co-create value with customers in production, innovation, and information dissemination (example: Pee 2016; Svahn, Mathiassen & Lindgren 2017). This is because contemporary business environments with open systems and hyper-competition make it difficult for firms to excel at developing new products and services, bringing them quickly to the market, and sustaining those (Beydoun et al. 2019).

While there is a lot of support in extant literature for taking advantage of customer engagements in these communities (Erfani & Abedin 2016; Erfani, Blount & Abedin 2016; Pee 2016; Tavakoli, Schlagwein & Schoder 2017), some scholars argue that simply collecting ideas from firm sponsored online communities is not helpful, and firms need to understand how to deal with ideas and orchestrate the various actors involved (Abedin & Babar 2018; Dong & Wu 2015). Consequently, information systems (IS) scholars are still examining the challenges and constraints of these communities for value creation and innovation and which strategies are effective for firms to better leverage their potential (Yan, Leidner & Benbya 2018).

Recent studies in information systems and organization science have shown that online communities devoid of a traditional structure mechanism (Lusch & Nambisan 2015). One of the fundamental characteristics of online communities is their fluidity, which is the dynamic configuration of their organizational structures (Faraj, Jarvenpaa & Majchrzak 2011). This means that in online communities, rules, participants, and interactions continually and constantly change over time. Yet, much of the previous research on online communities has overlooked the interactive dynamic of these communities (Boroan, Abedin & Erfani 2018). This is why scholars such as Nambisan et al. (2017) and Faraj, Kudaravalli & Wasko (2015) have recently called for more research into understanding the sociotechnical phenomenon of online communities.

Seeking greater value through online communities reflects a shift in thinking from the firm as a definer of value to more participative customers, widely known as value collaborative creation or value co-creation (Ind & Coates 2013). In online communities, the sponsoring firm lacks authority to issue

commands, and the individual participants are not obligated to obey. The firm is assumed to have the responsibility to coordinate value co-creation, which is called orchestration (Nambisan et al. 2017). The orchestration of autonomous participants to collaboratively create value requires researchers to put the focus on the process rather than outcomes only (Dhanaraj & Parkhe 2006). Processes in online communities include events which involve people, technology, materials, ideas, social structures, and many other things. Understanding the process requires an understanding of why events occur. However, the explanation of the occurrences of events is seldom discussed in the information systems literature (Mingers & Standing 2017).

Considering the importance of value co-creation in online communities in the information systems field, and considering that our understanding of the orchestration of value co-creation in online communities is underdeveloped, this study aims to examine firm sponsored online communities to understand what shapes, enables, and constrains value co-creation. Amongst various types of sponsored online communities, this study focuses on communities of interest. From a theoretical point of view, this thesis uses service dominant logic and sociomateriality as well as a critical realist approach to investigate two similar case studies in Indonesia. The findings of this study include four actors (Individual Participant, the sponsoring Firm, Social, and Technology), a list of enablers and constraints, three mechanisms to co-create value in communities of interest, and two roles for the firm to orchestrate value co-creation in communities of interest. The findings of this thesis led to the development of a novel model that theorizes value co-creation in firm sponsored online communities of interest as a collaborative effort between the individual participants and the sponsoring firm.

1.1 Significance of the Study

Online communities are social aggregations on the internet that consist of people who engage in public discussions and develop relationships among themselves (example: Rheingold 2000). Increasingly more organizations are sponsoring online communities to involve their customers in production collaboration, and success stories continue to flourish (example: Pee 2016; Svahn, Mathiassen & Lindgren 2017). Examples of firms successfully nurturing and taking advantages of online communities include Starbucks™ for collecting customers' ideas (Wong et al. 2016), Threadless™ for T-shirt designs (Piller 2010), and SAP™ for idea contests (Tavakoli, Schlagwein & Schoder 2017).

While the above literature exemplifies sponsored online communities, few studies develop a comprehensive understanding of value co-creation in online communities that are sponsored by firms. In particular, my literature review has identified the following important gaps:

First, despite the importance of the subject, our understanding of sponsored online communities is still emerging, and research in this domain is fragmented with limited integration efforts (Faraj et al. 2016). Sponsored co-creation communities are characterized by various synonyms with different definitions that can lead to confusion. For example, sponsored online brand communities are also called company-sponsored online co-creation. Tripathi et al. (2014) identify co-creation as a type of crowdsourcing. On the other hand, Ind, Iglesias & Schultz (2013) do not consider crowdsourcing to be co-creation because of the lack of togetherness in the creation process. These disagreements about what co-creation communities are may prohibit researchers from gaining a comprehensive understanding of this phenomenon and limit knowledge contributions to this field. Therefore, an integrated understanding of how scholars identify co-creation communities and where the sponsored online communities are is beneficial to advancing our understanding of this phenomenon.

Second, previous literature in co-creation stresses the importance of interactions between the sponsoring firm and individual participants in firm sponsored online communities; however, current typologies of different online communities focus on either the firm or the participants, but not the interaction between them. For example, Zwass (2010) provides a taxonomy of co-creation based on characteristics attached to the sponsoring firm (e.g., tasks, incentives, and IT supports) and individual participants (e.g., motivation, performers, and autonomously involvements). This approach ignores the collective interaction that occurs during co-creation which serves as the foundation of value co-creation (Briel & Recker 2017; Heidenreich et al. 2015). In addition, most of the literature considers technology as context rather than an actor with its own capabilities (Singaraju et al. 2016); hence there is a gap in the academic literature regarding resources that might be present in the technology and their essential impact on value co-creation. The online community technology in itself is seen to enable other actors (firms and customers) to connect and integrate sets of resources for value co-creation (Storbacka et al. 2016; Zhang et al. 2017; Zwass 2010). Adding technology to the discussion of value co-creation is imperative because the impact of technology cannot be ignored (Storbacka et al. 2016). A focus on the interactions in firm sponsored online communities is also proposed as a way to develop theories that are relevant to practice (Felin, Lakhani & Tushman 2017).

Third, there is a lack of comprehensive understanding of what enables or constrains value co-creation in sponsored online communities. Faraj, Jarvenpaa & Majchrzak (2011) propose fluidity as an enabler of value creation in online communities. The individual's aspect is also recognized for its contribution to enabling value co-creation (Zhang et al. 2015). Nambisan (2009) presents critical dimensions of personal value experiences in co-creation, with a limited focus on examining enablers and constraints. Despite these studies, more research is needed to generate an integrated model that presents what enables or constrains value co-creation in online communities. This is particularly important since

previous studies have used inconsistent terminology for enablers and constraints, which makes it difficult to compare findings.

Fourth, although value generation is essential for sponsoring firms and individual participants, most studies in value co-creation highlight the firms' perspective and overlook the individual participants. Ind, Iglesias & Schultz (2013) bring a definition of co-creation as an active, creative, and social process based on collaboration between organizations and members that generates value for all. This definition emphasizes the community that is built on the relationship between members and includes the organization as one of the parties that receives benefits from the co-creation activities (Abedin & Babar 2018). However, much of the previous research in this field has focused on managerial and marketing perspectives rather than other stakeholder groups (Ind & Coates 2013), focusing on the notion of customer exploitation while neglecting customer need and potentially inhibiting online community growth (example: Briel & Recker 2017; Gebauer, Füller & Pezzeri 2013).

The above gaps underline the significance of investigating sponsored online communities that emphasize the interaction between the firm and individual participants and the importance of technology from the individual participant perspective. Understanding value co-creation, as well as enablers and constraints from the individual participant perspective, will assist sponsoring firms to develop an appropriate strategy to manage online communities, which in turn is expected to lead to more active participation and value generation for all contributors. Moreover, this helps technology developers determine whether and to what degree an environment caters for value co-creation, and additionally what changes in the environment may guide the improvement of value co-creation. This research provides a significant opportunity to advance the understanding of the variability, materiality, emergence, and richness of the sociotechnical phenomenon, which is the sponsored online community.

1.2 Research Scope and Assumptions

In this study, firm sponsored online communities are communities initiated by a firm, which takes responsibility for nurturing these communities. Firms may explicitly or implicitly sponsor an online community and these gradations of sponsoring and endorsement require clarification. For example, Optus developed YesCrowd, a customer support community that connects Optus customers. In that example, Optus explicitly sponsor the online community by initiating and managing the community, which is also what this study refers to as a firm sponsored online community. On the other hand, K-mart Mom is an online community that promotes K-mart products. The K-mart organization does not explicitly sponsor this community itself and states that this community is outside their responsibility. However, K-mart gives vouchers and invites members of this community to attend K-mart product

launch events. This study excludes this type of online community from its scope, mainly because the endorsement does not explicitly come from the firm and is subject to change. These assumptions form the criteria for selecting appropriate cases for my study.

Another form of firm sponsorship is when the firm acts as an intermediary such as in a market place where the sponsoring firm connects people (e.g. Ebay, Expedia, and Alibaba). This study also excludes this type of sponsorship and argues that this type of sponsorship should be considered as a special class (Hughes & Lang 2006) because the sponsoring firm is not involved in the generation of products or delivery of services. Currently, this type of business model is called a sharing economy (Trenz, Frey & Veit 2018).

This study considers vibrant firm sponsored communities of interest that have been active for at least one year and whose members are individual participants (not organizations). In this study, 'active' means that the threads in the community are not dominated by the sponsoring firm. This study assumes that: 1) maintaining a vibrant community may lead to tangible and/or intangible benefits for the firm; and 2) the firm investing in the online community and continuing its relationship with the participants are signs that those sponsoring firms believe in its benefits or opportunities.

This study places particular attention on the individual's continuous interactions with the online community and not on the outcomes of the interactions. The reason is because it is difficult to identify and measure the goals in situations, such as engaging with online crowds for innovation or relationships, where we are not clear of what we are looking for, with whom we are having a relationships with (Monteiro 2018). Therefore, rather than looking at direct benefits for the firm, this research sees the importance of the individual's participation in online communities. The individual's continuous interactions with the online community provide a means to integrate resources and collaboratively create value, whatever that value is. Considering the active role of individuals in firm sponsored online communities, it is worth exploring value co-creation processes from the individual participant's point of view.

1.3 Objectives and Research Questions

An initial review of the literature has revealed four types for firm sponsored online communities: open source communities (Nakatsu, Grossman & Iacovou 2014; Ståhlbröst & Bergvall-Kåreborn 2011), commercial communities (Wiertz & de Ruyter 2007), communities of interest (Wu & Fang 2010), and crowdsourcing (Nakatsu, Grossman & Iacovou 2014). The focus of this thesis is on communities of interest because there is an increasing interest in sponsoring these communities. In addition, this community type has been selected because this study has access to major and unique comparable case studies/online communities which share a similar cohort of members, are located in same

country, and are sponsored by firms in the same market. This rich dataset with comparable parameters offers the potential of generalizability.

A community of interest is an online community that is based on social communications and relationships between people who are non-geographically bound and who share a common interest or passion such as a brand or health issue. . This study focuses on firm sponsored communities of interest and examines what enables, constrains, and shapes value co-creation from a participant's perspective. This perspective is deliberately restricted to the scope of this study. Further research may take the opportunity to expand the scope of this study by including the sponsoring firm perspective.

Thus, this research seeks to address the following primary question (PRQ):

“How do firm sponsored online communities of interest enable, constrain, and co-create value from an individual participant’ perspective?”

Underlying this essential question are four supporting research questions:

SRQ 1: *What are the characteristics and types of online co-creation communities?*

SRQ 2: *What are the enablers in the community?*

SRQ 3: *What are the constraints in the community?*

SRQ 4: *How is value co-created in the community?*

1.4 Overview of Research Design

Value co-creation in digital environments is a complex system consisting of overlapping interactions between people, firms and technology. Currently, value co-creation in digital environments is understood at an abstract level with minimum explanation in actual situations (Leonardi 2013; Cecez-Kecmanovic, et al. 2014; Storbacka, et al. 2016; Vargo & Lusch 2016), while in fact real causal relations involve lower level actions and interactions; hence an in depth and flexible approach is needed to provide clarity about lower level actions and interactions and connect these with abstract concepts.

The philosophical paradigm of this study is critical realism. This study combines the following research methodologies: a systematic literature review and a multiple critical realist case study. Critical realism is proposed as a prospective alternative to explain information systems phenomena by gaining greater insights into the role of IT artifacts in specific applications (Dobson 2001; Williams & Wynn Jr 2018). This paradigm allows researchers to develop and support in-depth explanations for the outcomes of sociotechnical phenomena that take into account the breadth of information technology, social, and organizational factors by conducting micro-macro analysis (Williams & Karahanna 2013; Wynn & Williams 2012).

First, the Systematic Literature Review (SLR) provides a comprehensive understanding of current literature on online co-creation communities and value co-creation in the context of this study (Nadeem et al. 2018). It synthesizes existing findings, discovers research gaps as a basis to advance this study, and conceptualizes what shapes value co-creation in these communities. SLR results in: (i) identification of types of online co-creation communities, (ii) enablers, (iii) constraints of value co-creation, and (iv) firm roles in value co-creation. This answers SRQ1 and partially provides existing evidence for SRQ2, SQR3, and SQR4. The findings of SLR also contribute to the development of research scope and assumptions.

Next, this study uses a multiple and embedded case study where there is more than one unit of analysis in each case (Yin 2018). More than one unit of analysis is needed to connect between lower-level actions and the organizational level and through this, facilitate an understanding of value co-creation phenomena. Thus, this study selects the interaction between members as the unit analysis for the lower level action, and the online community as the unit of analysis for the organizational level. Data collection for the multiple case study is guided by Kozinets (2010). This approach allows the observation of online activities in online forums in an unobtrusive manner, which the members are physically living in various places (Kozinets 2010; Seraj 2012). Kozinets (2010) recommends using a variety of data sources to investigate how technology is used and experienced. Therefore, this thesis uses a combination of interviews and online text data collection across two comparable case studies. These two data types complement each other in the development of rich answers to the research questions. Unlike other paradigms, the critical realism perspective offers detailed guidance on the methodological principles required for conducting and evaluating case studies (Venkatesh, Brown & Bala 2013). Analysis steps include: 1) explicating events; 2) retrodution; and 3) empirical corroboration (Priharsari, Abedin & Mastio 2019). These are elaborated in Chapter Three. The multiple CR case study completely answers SRQ2-4 and also the PRQ.

1.5 Overview of Case Studies

As mentioned above, this study uses multiple case study research and focuses on online communities of interest. Case studies were selected on the basis of two criteria: First, the selected case studies needed to match the characteristics of 'Communities of Interest', which have been set out in Chapter Three. Second, as suggested by Yin (2018) and Kozinets (2010), selected communities need to be relevant, active, interactive, and share similarities. The similarity between cases is an important measure to ensure findings are comparable and generalizable. Accordingly, two firm sponsored online communities of interest were selected. They are both well-known Indonesia based online communities on Facebook, and are similar to each other in terms of activities within the community,

member characteristics, and the industry. I was able to become a member of both communities and data collection was conducted for about eight months in both communities during 2018.

The first online community is Abekani(an) Lovers (AL), the largest community in the Indonesian leather bag industry. This online community was created by a local leather bag company, Abekani, in 2015. AL has more than 20,000 members with more than 20 threads created per day. To be a member of AL, an individual must receive an invitation from an existing member. Abekani(an) Lovers is well-known as the pioneer leather bag online community in Indonesia. For this study, about 400 community threads from 2015 to 2018 were analyzed and a total of 15 interviews were conducted.

The second community is Berliano Lovers (BL). Similar to AL, this community was created by a local leather bag company, Berliano, in 2015. BL has more than 8,000 members with more than 10 threads created per day. BL, as well as other leather bag online communities initiated by firms in Indonesia, tries to emulate AL's success by imitating the features of the AL online community. Therefore, it has very similar activities and members' characteristics. Although BL is not in a position to threaten AL's market domination, it can be considered as one of AL's biggest competitors. A total of 11 interviews were conducted. For about 150 community threads from 2015 to 2018 were analyzed.

1.6 Key Findings, Implications, and Contributions

The findings are summarized as follows:

1. The study has revealed and characterized four types of firm sponsored online communities: Open Source Communities, Commercial Communities, Communities of Interest, and Crowdsourcing. These communities were differentiated by categorizing them according to self-organization and the output of the community for the sponsoring firm.
2. Enablers and constraints are factors determined by the actors in online communities (Firm, Individual Participant, Social, and Technology) that encourage or discourage participation. Enablers from the sponsoring firm are Participatory Leadership, Reward System, and Transparency. Enablers from the individual participant are Motivation, Individual Characteristics, and Evaluation of the Online Community. Enablers from the Social are Similarity, Sense of Community, Equality, Trust, and Content Quality. Enablers from the technology are Association, Interactivity, Persistency, Flexibility, and Visibility.
3. Similar to the enablers, constraints are determined by the four actors. Constraints may appear as the result of the lack of enablers, such as low Transparency, lack of Sense of Community, and low Content Quality. Other constraints, which are not related to the absence of enablers, are also found, such as Social Hierarchy under Social and Privacy under Technology.

Based on the findings of enablers and constraints, this study then revealed the dynamic relationship between the enablers and constraints. This dynamic nature shows that some constraints may act as enablers, and vice versa, dependent on the situation. Enablers and constraints are not always the two sides of the same coin. They may occur to trigger others or they also may occur concurrently and are interpreted as both constraints and enablers.

4. Value co-creation is shaped by the firm role as a facilitator and co-creator and by the fluidity of the online community. The firm role as a co-creator or facilitator is more generative rather than well planned before. Generative means the role is used to harness the interactions in such a way that value co-creation is stimulated. This means that the firm's capacity to switch from a facilitator role to a co-creator role or vice versa is important to the orchestration of value co-creation in online communities, particularly communities of interest. The sponsoring firm becomes a co-creator in events like: Product & Service Co-design, Orders and Payments, Playful Activities, and Complementary Activities. The sponsoring firm has a facilitator role in events like: Ideas & Reviews, Self-Disclosure, Interpersonal Relationships, Knowledge Sharing, Sell Buy & Barter, and Business Opportunity.

The fluidity of online communities also shapes value co-creation. Fluidity can provide an opportunity for collaboration when the community responds to this in ways that encourage interactions. Three response mechanisms found in the online community are Consensus Making, Consensus Settlement, and Changing Boundaries.

Consensus Making is the tendency of the sponsoring firm and individual participants to engage in the creation of common meanings and shared understandings. Consensus making produces rules. Consensus Settlement is the tendency of the sponsoring firm and individual participants to engage in the process of sharing current common meanings and shared understandings by establishing the current consensus. This settlement includes a way to remind others of current agreed rules. Changing Boundary is the tendency of the online community to change the Social and Technology in ways that discourage or invite certain resources into and out of the communities at certain times. From the macro perspective, the boundaries of online communities also change over time as the result of consensus making and settlement enactment.

These findings provide explanations as to why similar online communities (AL and BL) may produce different outcomes. The research also makes several significant contributions to theoretical knowledge, methodology and practice. The implications and contributions are briefly outlined below.

This study proposes a new way to view types of firm sponsored online communities and offers a novel model that elaborates the dynamic nature of the ecosystem of value co-creation. This contributes to

current knowledge in four ways. First, the types of firm sponsored online communities highlight the level of members' self-organization, which has attracted little research interest to date. This finding is a response to the call that we should develop a taxonomy of firm sponsored online communities based on the emerging or designed social interactions to develop relevant theories for these phenomena (Felin, Lakhani & Tushman 2017). Second, this study discovers comprehensive enablers and constraints in communities of interest based on empirical evidence and illuminated the dynamic nature of these enablers and constraints. Third, the model explains the firm roles as the orchestrators of the online communities provided by social media technology. This study also explains the firm roles as a co-creator and facilitator (Grönroos 2011b) in value co-creation and applies Vargo and Lusch (2016) SDL foundational premises to clarify the firm roles. Fourth, the model illustrates how the online communities maintain value co-creation in the fluid organization through specific mechanisms.

This study contributes to Service Dominant Logic theory (SDL) by bridging the abstract level explanation of SDL to empirical and observable levels. This study also presents the dynamics of service ecosystems and clarifies the sponsoring firm roles within sponsored online communities used to co-create value which has been left unexplained or overlooked in most SDL studies. The events and mechanisms found connect the abstract level explanation of SDL to actual application in the real world.

Another contribution is the enhancing of our understanding of sociomateriality, particularly from the critical realist perspective. The model of value co-creation proposed in this study illustrates the sociomateriality configuration in online communities as the representative of fluid organizations. The findings demonstrate that features of technology can be enabling and constraining at the same time. When a group of people perceives a similar meaning or use of the same subset of technology, they are able to develop social arrangements to aid technological constraints. In this study, both online communities change the technology over time by re-combining current technology with other compatible technologies. This shows that a technology as a material is growing organically rather than designed from scratch along with socially shared meaning. Based on that, this research advances our understanding of the imbrication model of affordances from Leonardi (2011).

The next contribution is a contribution to methodology by demonstrating a multiple critical realist case study. This study uses an opportunity to investigate and compare two similar online communities, which improves the general application of the findings and contributes to the discussion of empirical critical realism research.

This study also offers important practical implications for designing co-creation strategies and for improving co-creation practices by delineating the resources that can influence value co-creation in

online communities. First, the proposed value co-creation model helps firms to understand that their roles and factors are critical for the interactions between actors, and in turn for nurturing online co-creation communities. Second, the model raises firms' awareness about the relationship in sponsored online communities. Third, the shapers of value co-creation expand the attention of individuals and firms into the technology design and social of online co-creation communities. The shapers, enablers, and constraints found can be used as a guide in developing platforms and support mechanisms in online co-creation. This study also shows that an assessment of enablers and constraints associates value to online communities.

1.7 Organization of the Thesis

The writing style in this thesis follows the writing style guideline: Communication of the Association for Information Systems (LeBrocq 2019). The guideline prefers that authors use "I", "We", and so on rather than "the authors" and "the researchers" because they are clearer. The selection of tenses is also made based on the guideline above. For example, it uses present tenses in the introduction instead of future tenses. The remaining chapters of this thesis are as follows:

Chapter 2: Literature Review

Chapter two reviews sponsored online communities and the literature of value co-creation in sponsored online communities. Enablers and constraints, as well as dominant theories of value co-creation, are also reviewed in this chapter. After that, gaps in the literature are discussed and an initial model of value co-creation is developed.

Chapter 3: Research Design

The third chapter is concerned with the methodology used for this study. This chapter first introduces the critical realism paradigm. Then SLR, multiple case study research design, and netnography are explained. The brief explanation of candidates of case studies and selection criteria are also presented.

Chapter 4: Systematic Literature Review Findings

Results of SLR are presented here. This chapter presents the first refined model proposed in the literature review.

Chapter 5: Online Text and Interview Findings

Results of data collection are presented here. In this chapter, detailed descriptions of each case study focusing on research questions are outlined and compared.

Chapter 6: Discussion

This chapter discusses the refined model of value co-creation in sponsored online communities based on findings in the previous chapters by using a critical realism approach. Each research question (primary and secondary questions) is addressed here. Two stages of critical realism analysis are also presented. First, the retroduction stage to identify mechanisms, and the last is the empirical corroboration phase to validate the model.

Chapter 7: Contribution and Conclusion

This chapter highlights the implications for theory and practice and outlines recommendations for future studies. Lastly, the thesis concludes with a summary of the contributions of this study, including its limitations.

1.8 Definition of Key Terms

The definition of key terms are provided in alphabetical order below. Key terms in bold type have been used in the introduction.

Communities of Interest	: An online community that is based on social communications and relationships between people who are non-geographically bound and share a common interest or passion such as a brand or health issue.
Context	: The set of circumstances that surround an event
Comments	: text comments from other participants in a thread
Critical Realism	: A philosophical foundation initiated by Roy Bhaskar that believes the existence of enduring entities, physical, social, or conceptual, observable or not that have powers or a tendency to act in particular ways.
Events	: Events are a critical realism concept that represents the empirical domain. Event is the experience which can be directly observed (Mingers 2004). An event is something that happens which is observable and experienced by individual participants in online communities. In this study, one thread in an online community is considered to be one event. Interviews were used to complement the content analysis findings to identify events.
Empirical Corroboration	: A validation of proposed mechanisms which ensures the proposed mechanisms have causal power. Empirical corroboration is conducted by repeated confirmation through a series of events. To

demonstrate the efficacy of the logic, the proposed mechanisms are used to explain events occurring in the cases.

Firm	: An actor in the model representing the sponsoring firm of an online community. It is written with capital F.
Firm role as a facilitator	: A facilitator of value creation in a condition where there is no direct interaction between the firm and participants. As a facilitator, the sponsoring firm helps interactions between members by providing facilities.
Firm role as a co-creator	: A co-creator in a condition where there are direct interactions between customers and the firm
Individual Participant	: An actor in the model representing an individual member of an online community. It is written with capital I and capital P.
Imbrication model	: A metaphor proposed by Leonardi (2011) to describe the relationship between humans and technology. It states that changes are sequences of iterative changes to social practice until the technology becomes constraining, followed by changes to the technology.
Mechanisms	: The way of acting things. Mechanisms are the heart of causal explanation in critical realism. The simplest way of understanding mechanisms is that they are ways in which entities cause particular events (Easton 2010).
Markup Resellers	: They are individual participants who sell bags above the original price. This term is very important in both online communities because most of the individual participants expect to buy bags at acceptable prices. The bag is very difficult to own. They have to struggle through “the fight” to own a new bag. This tempts some people to make a profit by selling their bags at a higher price than the original price. On the other hand, owning the bag is also a prestigious achievement in the community. Therefore, some people take a short cut to bag ownership by buying bags at any price to complete their collection.
Post	: The act of publishing a thread on the Facebook platform

Retroduction	: "The act of proposing speculative—but plausible—conjectures about the nature of a phenomenon, and hence what kinds of evidence might increase the prospects of further insights into it" (Folger & Stein 2017, p. 307)
self-organization	: is a pattern of interactions which are spontaneous belong to the online community to change their form to maintain value co-creation (Vargo & Lusch 2010). The high self-organization is shown by the capability to respond actively to changes to co-create value, such as self-task distribution or self-leader selection.
Service-Dominant Logic	: A theory proposed by Vargo and Lusch explaining value creation. The value co-creation in SDL refers to actions of multiple actors (possibly unaware of each other) that contribute to each other's benefit. SDL puts the focus on the action of operant resources (those that act upon other resources) to generate value.
Sociomateriality	: An approach that symbolizes technical and social interests, particularly their inter-relationship, to develop institutional arrangements.
Structure	: Structure is identified as a system of human relations and seen as actual entities which have emergent properties (Dobson 2001).
Social	: An actor in the model representing the relationship between individual participants and the sponsoring firm, which is mediated by technology in an online community. It is written with capital S.
The fight	: This term is made by the online communities and refers to the bag order process. The bag order is very competitive so that participants have to struggle to succeed. Some of the interviewees said that they had to prepare at least one hour before the order opened to make sure that they could place their name on the order list. This term is important for both online communities because it is central to participants' attention.
Thread	: One display of a Facebook post

Technology

: An actor in the model representing technology used by an online community. It is written with capital T.

CHAPTER 2 LITERATURE REVIEW

This chapter provides an examination of the existing literature into value co-creation in firm sponsored online communities. The literature review is organized into four sections: 1) the research context of firm-sponsored online communities; 2) reviews the importance of value co-creation in firm-sponsored online communities; 3) theories underpinning of this study which are the service-dominant logic and sociomateriality theory; 4) the literature review chapter is closed with a summary of research gaps and research questions.

The purpose of this chapter is 1) to identify gaps and 2) to develop an initial framework that is used to investigate value co-creation in firm-sponsored online communities.

2.1 Firm-Sponsored Online Communities

2.1.1 Definition and their importance

An online community is a group of people, who are not necessarily identifiable, that is connected through a virtual platform (Spagnoletti, Resca & Lee 2015). It exists in the minds of its members and they build relationships (Füller et al. 2014) which are typified by feelings of togetherness and mutual bonds (Rheingold 2000; Rullani & Haefliger 2013; Seraj 2012). Definition of online communities differs regarding the intensity of the commitment required and the relationships between individual participants in the community; however, most of them agree that online communities are a group of people who are having discussions for whom electronic communication is a primary form of interaction. A forum for women called “bellybelly” (<http://www.bellybelly.com.au/>) is a famous example of an online community in Australia which is created by Kelly Winder. This community has more than 10.000 members who do not know each other, whereas at the same time they communicate and help each other with problems by sharing their personal experiences and opinions.

Contemporary business environments with open systems and hyper-competition make it difficult for firms to excel at developing new products and services, bring them quickly to market, and sustain them. Therefore, firms are increasingly considering other resources with which they can collaborate and co-create value; these resources include online communities (Briel & Recker 2017; Liu, Hull & Hung 2017; Svahn, Mathiassen & Lindgren 2017). Examples of firms successfully adopting this approach include Starbucks™ for collecting customers’ ideas (Wong et al. 2016), Threadless™ for T-shirt designs (Piller 2010), and SAP™ for idea contests (Tavakoli, Schlagwein & Schoder 2017). More

organizations are sponsoring online communities to involve their customers in production collaboration, and the success stories continue to flourish (example: Pee 2016; Svahn, Mathiassen & Lindgren 2017).

Sponsored co-creation communities have various synonyms with different definitions that lead to confusion. For example, sponsored online brand communities are also called company-sponsored online co-creation. Tripathi et al. (2014) identify co-creation as a type of crowdsourcing. On the other hand, Ind, Iglesias & Schultz (2013) do not consider crowdsourcing to be a co-creation because of the lack of togetherness in the creation process. There are other terminologies to identify firm sponsored online communities such as co-creative innovation, crowd wisdom, customer co-creation, collaborative innovation with consumers (Gamble, Brennan & McAdam 2016). It is not clear what the domain of the construct is and what its boundaries are. For example, are communities like Threadless and Innocentive (crowdsourcing contests) equivalent to 3D Robotics's open source community? Sponsored co-creation is broad and elastic enough to be applied as a concept to disparate phenomena.

While there is a lot of support in extant literature for taking advantage of customer engagements in these communities (Pee 2016; Tavakoli, Schlagwein & Schoder 2017), some scholars argue that simply collecting ideas from firm sponsored online communities is not helpful, and firms need to understand how to deal with ideas and orchestrate various actors involved (Dong & Wu 2015). In addition to that, while we are learning much about these communities, the comparative commonalities and differences remain under-specified (Felin, Lakhani & Tushman 2017). Consequently, information systems (IS) scholars are still struggling to integrate many firm sponsored phenomena and are continuing to examine challenges and constraints of these communities for value creation and what effective strategies firms need to utilize using technology to benefit from their potentials (Yan, Leidner & Benbya 2018).

Despite the importance of the subject, our understanding of firm-sponsored online communities is still emerging, and research is fragmented with limited integration efforts (Faraj et al. 2016). Overlap and unclear classification of firm sponsored online communities may prohibit researchers from having a comprehensive understanding of this phenomenon and may limit their knowledge contribution to this field. Therefore, an integrated understanding of how scholars identify firm sponsored online communities is beneficial to advance our understanding of this phenomenon.

Gap 1.a: *Our understanding of firm-sponsored online communities is still emerging, and research is fragmented with limited integration efforts*

2.1.2 A Firm-Sponsored Online Community as a Fluid Organization

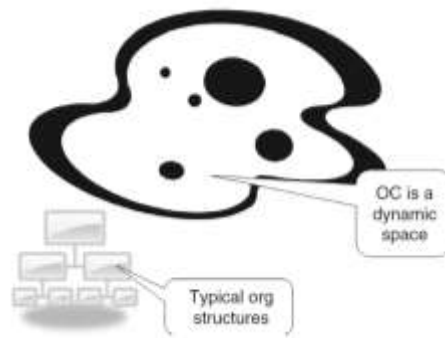


Figure 2.1 Online Community (OC) as a fluid object (taken from Faraj, Jarvenpaa, & Majchrzak 2011)

Recent studies in information systems and organization science have shown that online communities are devoid of traditional structure organizations (Lusch & Nambisan 2015). One of the fundamental characteristics of online communities are their fluidity (Faraj, Jarvenpaa & Majchrzak 2011). Fluidity is the dynamic configuration of organizational structures. This means in online communities, rules, participants, and interactions continually and constantly change over time. Fluidity may also relate to the formation of the online community organization (Pica & Kakiyama 2003). An Internet-based technology platform makes it possible for traditional organizations to become more fluid. The platform allows participants to be connected beyond location and time boundaries. It also makes the boundaries of online communities hard to identify who is in and who is outside. Many individuals in online communities are at various stages of exit and entry that change fluidity over time. The participation ranges from highly committed to partaking in different ways at different points of time. In addition to that, fluidity in an organization is also possible because of the stability of interactions afforded by the technology (Pica & Kakiyama 2003).

Although fluidity may lead to negative impacts such as low sense of belonging and loss of efficacy that foster further disruption and tension (Bushe & Chu 2011); Faraj, Jarvenpaa & Majchrzak (2011) argue that fluidity can provide opportunities for collaboration when the community responds to this in ways that encourage interactions. Their argument offers a promising starting point to understand the interaction among actors in nontraditional organizations; however more studies are required to complete these initial attempts (Faraj, Jarvenpaa & Majchrzak 2011; Lusch & Nambisan 2015; Nambisan et al. 2017; Ransbotham & Kane 2011).

Four opportunities of collaboration in a fluid organization are proposed by Faraj, Jarvenpaa & Majchrzak (2011). The first response is named Engendering Roles in the Moment. In this response, members enact specific roles that help turn the potentially negative situation into a more positive

situation. One of the examples of this is explained by Gebauer, Füller & Pezzeri (2013). Their case study shows that individual participants in the online community who have a high sense of community may respond to negative comments in positive ways. The second response is labeled Channeling Participation. In this response, members help keep other fluid participants informed of the state of the knowledge. The third response is labeled Dynamically Changing Boundaries. In this response, online communities change their boundaries in ways that discourage or invite certain resources into and out of the communities at certain times. The fourth response is called Evolving Technology Affordances. In this response, online communities iteratively change their technologies in use in ways that are embedded by and become embedded into, iteratively enhanced social norms. These iterations help the online community socially and technically respond to changes because of its fluidity so that the community does not disappear.

Gap 3: *Further exploration of the dynamics of interactions in an online community as the result of its fluidity is required.*

2.1.3 Types of Firm-Sponsored Online Communities

This study uses the Ind, Iglesias & Schultz (2013) definition of co-creation as an active, creative, and social process based on collaboration between the sponsoring firm and individual participants that generate value for all. This emphasizes the need for defining the relationship to collaborate between stakeholders and the perceived value by individual participants. Ind, Iglesias & Schultz (2013) emphasize co-creation for the community that is built on the relationship between members and includes the sponsoring firm as one of the parties that receives benefits from the co-creation activities.

Some scholars have proposed categorizations of online communities to serve as a foundation for further inquiries. Table 2.1 shows examples of previous categorizations. As Table 2.1 indicates, available categorization overlooks the relationships between members, particularly to organize their communities so that value can be generated continuously. This categorization shows that academic attention to the context of online communities is mostly to the participants' attributes (i.e., the level of engagement, motivation, and profession), the firm attributes (i.e., profit/nonprofit organization, rewards, modes of generating knowledge), and the technology.

Table 2.1 Categorization of firm sponsored online communities

Scholars	Categorization
White & Le Cornu (2011)	Participants: residents and visitors
Zwass (2010)	Participants: motivations, performers The sponsoring firms: tasks, rewards, governance The technology: IT support
Porter (2004)	Member-initiated: social, professional The sponsoring firms: commercial, non-profit, government
Stanoevska-Slabeva & Schmid (2001)	Based on discussion, goal, virtual world, hybrid

Hagel & Armstrong (1997)	Consumer-focused communities: geographic, demographic, topical
Piller, Ihl & Vossen (2010)	Modes of generating customer in product development: listen, ask, build

These categorizations take for granted the process within the online communities and focus more on attributes of actors in the online community. Although attributes may impact the process within the communities, this study argues that categorization gives less contribution to our understanding of this phenomena while the technology and various practice are outpacing our abilities to develop a theory that is able to capture and explain them. This study believes that a different perspective should be taken to understand these various types of sponsored online communities, and follows the preliminary taxonomy of firm sponsored online communities proposed by Felin, Lakhani & Tushman (2017) that understanding the social interaction developed within firm sponsored online communities will help to introduce important theoretical and comparative intuition to explain this phenomena.

As has been mentioned in the introduction chapter, when a firm is sponsoring an online community, they let go half of the control to the participants who are fluid. Deliberately designed and unintended or emergent social interactions may occur during these fluid interactions. These interactions are seen as the central determinant of the knowledge flowing (Faraj, Jarvenpaa & Majchrzak 2011) and the continuation of an online community (Gebauer, Füller & Pezzeri 2013); yet the distinction is far from clear in the context of firm sponsored online communities (Felin, Lakhani & Tushman 2017). Understanding these emergent social interactions can help us to understand the underlying mechanisms behind social patterns that we are witnessing in the changing landscape of organizations when they invite people from outside organizations to be part of their strategies.

One way to identify the forms of social interactions is based on the individuality of efforts (Felin, Lakhani & Tushman 2017). The very simplest form of efforts in online communities is made from individual efforts which are aggregated to the collective level. Another form of social interactions is the complex social interactions where common goals, cooperation, and task interdependence exist. In this type of form, more careful coordination and collaboration among individuals are required. Understanding the variety of forms of social interactions in online environments may give us a further understanding of how technology takes part to develop the interactions and how these interactions change technology as well as human and organization. Furthermore, it may also help us to develop theories that are able to explain this phenomenon.

The various practice of sponsored online communities emerges and outpaces our ability to develop theories that are able to capture and explain them. One of the possible reasons is the difficulties to generalize the various unique practice of sponsored online communities. Current categorization is not adequate enough to mature what we have understood about these phenomena. Forms of social interactions may help to develop fine grained and comparative practices of sponsored online

communities in understanding fluid organizations and also link individual level to organizational level concepts.

Gap 1.b: *Various practice of sponsored online communities emerge and outpace our ability to develop theories that are able to capture and explain them.*

2.1.4 Interaction in Firm-Sponsored Online Communities

Value co-creation in sponsored online communities involves both the firm and individual participants and engages various actors such as economic and social actors (Vargo & Lusch 2016) as well as technology actors (Brodie et al. 2013) that collectively leverage resources. Despite an implicit assumption of the importance of interactions of actors within online communities, the role of these interactions has not been discussed (Bugshan 2015; Faraj et al. 2016; Ind, Iglesias & Schultz 2013; Singaraju et al. 2016). Table 2.2 summaries various firm sponsored online community studies. It compares the purpose of the study, the perspective of data collection, and whether the study includes the platform in the data collection/analysis/discussion. As Table 2.2 indicates, very few studies consider technology as an important aspect of online communities. Much of the past research focuses either on the firm’s perspective (Ind & Coates 2013) or emphasizes the power of individuals' and neglects other determinism (Monteiro 2018). These studies overlook the interaction between the two as well as the technology. The interaction is the foundation of value co-creation (Suseno, Laurell & Sick 2018) that without our understanding of these interactions, how value is co-created remains unclear. Interaction among actors is important to understand because it is through interaction that information and knowledge are shared and generated (Lusch & Nambisan 2015).

Table 2.2 Focus of study

Study	Purpose of The Study	Firm Role	individual participants' Role	Platform Role
von Briel, F. and J. Recker (2017)	Online open innovation in a medium-sized organization	v	x	x
Svahn et al. (2017)	How incumbent firms embrace digital innovation	v	x	x
Chiu et al. (2014)	The role of crowdsourcing in various activities of managerial decision making	v	x	x
Jarvenpaa, S. L. and V. K. Tuunainen (2013)	the process to implement open innovation	v	x	x
Pee, L. (2016)	Impact of customer co-creation	v	x	x
Gharib et al. (2016)	Factors affecting participation in Business to Business Online Communities	v	x	x

Study	Purpose of The Study	Firm Role	individual participants' Role	Platform Role
Abrell et al. (2016)	How to leverage customer knowledge	v	x	x
Gebauer et al. (2013)	member behavior	x	v	x
Zhang et al. (2015)	Factors affecting participation in Business to Customer Online Communities	x	v	x
Xu, B. and D. Li (2015)	User motivation and behavior	x	v	x
Wong et al. (2015)	Innovation co-creation framework in a mobile environment	x	v	v
Füller et al. (2014)	User role and behavior	x	v	x
Saldanha et al. (2017)	IT-enabled capabilities	v	x	v

A successful online community is built by strong commitment or attachment of its members, whereby people feel connected to the group characteristics or purposes or people develop personal relationships with other members (Ren et al. 2012; Wang & Chen 2012); however, this attachment may be influenced by the features that are presented in the virtual platforms. A study conducted by Ren et al. (2012) shows that there are two different views of attachment: members' attention to the group and members' attention to individual members which may exist together or individually in an online community and how manipulated community features influenced community participation which tends to be overlooked by other researchers. MovieLens.org is an example of an online community in which each member has attachments to the group rather than to other members. In this online community, although a majority of members does not communicate frequently enough with others, members still enjoy the community bond. That happens because the features in the MovieLens.org inhibit its members from knowing each other individually and they are more developed to build community identities such as movie ratings, predictions, graphs, and classification. To sum up, technology choices in a virtual platform bring consequences related to members' interaction yet the communities will survive as long as members' attachment exists.

Much of the past research focuses either on the firm's perspective or individuals' perspective and fails to bridge the interaction between the two as well as the technology. Much of the past research focuses either on the firm's perspective or individuals' perspective and fail to bridge the interaction between the two. Consequently, interactions are often overlooked. Most of the literature considers technology as contexts rather than an actor with its capabilities (Singaraju et al. 2016). Hence there is a gap in the academic literature regarding resources that might be present in the technology and its

essential impact to value co-creation. The online community technology in itself is seen to enable other actors (i.e., firms and customers) to connect and integrate sets of resources for value co-creation (Storbacka et al. 2016; Zhang et al. 2017; Zwass 2010). Adding technologies to the discussion of value co-creation is imperative because the impact of the technology cannot be ignored (Storbacka et al. 2016).

Gap 2.a: *Much of the past research focuses either on the firm's perspective or individuals' perspective and fails to bridge the interaction between the two as well as the technology.*

2.2 Value Co-Creation in Firm Sponsored Online Communities

Value is often seen as the relationship between what one benefits and what one sacrifices (Grönroos 2011a). Value co-creation is usually used to describe the participative process between people and a sponsoring firm to generate value (Ind & Coates 2013). In general, the value can be seen as value-in-exchange and value-in-use. The former is related to the concept of goods-dominant logic (GDL), and the latter is related to service-dominant logic (SDL) (Vargo, Maglio & Akaka 2008). According to GDL, value is produced by firms and distributed to market through exchanges of goods and money. Thus, in this perspective, value creation is defined as a series of activities conducted by the firms. In SDL, there is an integration of resources and application of competences between producers and consumers that leads to sharing roles. Based on that, in SDL value is created together. SDL changes the basis of exchange by focusing on the action of operant resources (“those that act upon other resources”), for example skills and knowledge, whereas GDL puts the focus on the exchange of operand resources (“those that an act is performed, such as goods) (Vargo, Maglio & Akaka 2008). Table 2.3 exhibits the differences between S-D Logic and G-D Logic.

Table 2.3 Goods-dominant logic vs. service-dominant logic

	G-D Logic	S-D Logic
Value driver	Value in exchange	Value-in-use or value-in-context
Value creator	Firm	Firm, network partners, and customers
Value creation process	Firms put value in goods/services	Firms propose value, customers continue value-creation process through use
Value purpose	Increase firm' wealth	Increase adaptability, survivability, and system wellbeing through services
Value measurement	Amount of nominal value (price)	The adaptability and survivability of the beneficiary system
Role of firm	Produce and distribute value	Propose and co-create value, provide services
Role of goods	Output	Vehicle for operant resources
Role of customers	To use the value	Co-create value through the integration of firm-provided resources with other private and public resources

Service-dominant Logic by Vargo (Vargo, Maglio & Akaka 2008) is one of the famous theories extensively used in the marketing field to explain co-creation phenomena (Chen, Drennan & Andrews 2012; Galvagno & Dalli 2014). Essentially, it states that service is the basis of economic exchange. Service is defined as resources, and it has no "value" until actors use it; accordingly value is always co-created (Edvardsson, Tronvoll & Gruber 2011; Galvagno & Dalli 2014). The company and the customer become resource integrator (Edvardsson, Tronvoll & Gruber 2011).

Although the growth of collaborations between online customers and firms is obvious, the concept of customer co-creation is vague and prohibits our understanding of these phenomena (Fernandes & Remelhe 2016). Co-creation refers to strategies applied by firms to engage with their customers (Piller, Vossen & Ihl 2011; Prahalad & Ramaswamy 2002) to develop an understanding of their customers (Piller, Vossen & Ihl 2011). This meaning has been gradually extended such that co-creation can be used to involve citizens in public services and education (Ind & Coates 2013). Ind, Iglesias & Schultz (2013) bring a definition of co-creation that is an active, creative, and social process based on collaboration between organizations and members that generate value for all. This definition emphasizes the community that is built on the relationship between members and includes organizations as one of the parties that get benefits from the co-creation activities.

However, much of the previous research in this field has been focused on a managerial perspective and with marketers rather than other stakeholder groups (Ind & Coates 2013) which brings the notion of customers' exploitation and at the same time neglects the customers' needs which may inhibit online community growth (example: Briel & Recker 2017; Gebauer, Füller & Pezzeri 2013). For example, Cova & Dalli (2009) consider members of the online co-creation communities as workers that contribute to the sponsoring firm's purpose such as customers' loyalty, efficient, effective, and new business opportunities. Co-creation should be seen as a willingness to engage with customers not only for organization's benefits but also for individual participants' benefits to counter the charge of the sense of customer exploitation which potentially creates customers' backlash (Ind & Coates 2013). Pongsakornrungrungsilp & Schroeder (2011) agree to the existence of exploitation, but they show that at the same time such exploitation is not necessarily a threat to customers because co-creation entails an active role of customers. This takes co-creation from a firm dominated focus to a focus on how individuals can meet their needs. Therefore, customers' benefits become essential to be considered in sponsoring online co-creation communities rather than merely co-opting the skills and creativity of individuals.

Gap 4: *Much of the research in this field has been focused on a managerial perspective with marketers rather than other stakeholder groups.*

There has been some effort to identify enablers and constraints in online communities to co-create value. For example, Majchrzak et al. (2013) propose four affordances that online communities have regarding knowledge creation (meta-voicing, triggered attending, network-informed associating, and generative role-taking) to develop fluidity (Faraj, Jarvenpaa & Majchrzak 2011) that sustains value creation in the online communities. Zhang et al. (2015) adopt value experiences to explain the relationship between participant motives and the intention to participate in co-creation. Nambisan (2009) shows critical dimensions of personal value experiences in co-creation communities, but the enablers and constraint of value creation in co-creation communities have not been comprehensively developed and discussed. This is particularly important since previous studies have used inconsistent names and terminologies for enablers or constraints and made it difficult to compare findings. In addition to that, theories related to value and value creation are developed mostly in the areas of management and marketing, and there is no clear distinction between online and offline co-creation (example: Chen, Drennan & Andrews 2012; Grönroos 2012; Vargo & Lusch 2016). Nambisan et al. (2017) argue that the online environment has unique characteristics: fewer boundaries between innovation process and outcome, unclear definition of participants, and unbounded innovation. These characteristics might change the collaborative activities and the nature of value.

Gap 3: *an integrative study of what sponsored online communities have to enable, and constraint value co-creation is needed.*

Various forms of co-creation have been acknowledged. For example, co-creation may be categorized based on stages of innovation and based on contribution to the sponsor, includes product ideation, product design & development, product testing, product support service, promotion, and self-revelation (Nambisan & Baron 2007; Zwass 2010). Co-creation form can be identified based on how the idea is generated for innovation such as idea contest, idea screening through customers, communities of creation for idea generation, product-related discussion forum (Piller, Ihl & Vossen 2010). Another form of co-creation is classified based on the participants' activity which includes co-ideation, co-valuation, co-design, co-test, co-launch, co-production, co-consumption (Oertzen et al. 2018).

On the practical level in online communities, it is difficult to separate one form from other forms because the stage of innovation is blurred (Nambisan et al. 2017), for example, along with idea generation, an evaluation may become involved. Another example is in the open source, all of those activities may occur at the same time. While it is beneficial to understand each form of co-creation in order to develop strategies for different approaches, to develop an understanding that aligns with

actual practice and can keep up with fast pace changes in reality is also important to generate theories (Felin, Lakhani & Tushman 2017).

Therefore, this study does not focus on a particular form of co-creation or try to explicate these forms. Rather, this study focuses on the dynamics of social interactions in the online community. As also stated by Felin, Lakhani & Tushman (2017), understanding of the social interactions in firm sponsored online communities will help us to integrate various crowd types and community phenomena into theories.

2.3 Theoretical Background

2.3.1 Service Ecosystem and Firm Roles in Service-Dominant Logic

Vargo & Lusch (2004) introduce a new perspective to value co-creation which moves the focus from tangible outputs to service-dominant logic (SDL). SDL can explain the role of customers in co-creating value (Vargo & Lusch 2004). Through the perspective of SDL, value is a dynamic, experiential, and contextual benefit that is provided by a service (Barrett et al. 2015). Payne, Storbacka & Frow (2008) propose a framework highlighting customers as co-creators of value and marketing as the source for relationship building. While these authors attempt to connect what the firm offers to customers over time to better explain value co-creation (Ind & Coates 2013), the concept of value co-creation is vague and prohibits our understanding of these phenomena (Fernandes & Remelhe 2016).

Prahalad & Ramaswamy (2004) suggest the consumer-company interaction as the locus of value creation. From their perspective, co-creation refers to strategies applied by firms to engage with their customers (Piller, Vossen & Ihl 2011; Prahalad & Ramaswamy 2002) in order to understand their customers. Hence, this concept of co-creation tends to be seen as exploitation over consumers and has the potential to create consumer backlash (Cova, Dalli & Zwick 2011; Ind & Coates 2013).

The revised SDL perspective (Vargo & Lusch 2016) clarifies the previous misunderstanding of SDL (Vargo & Lusch 2004; Vargo & Lusch 2008). The revision (which includes eleven foundational premises) that they make was to consider the relationships in the value co-creation as Actor to Actor (A2A) instead of producers and consumers or Business to Customers (B2C) or Business to Business (B2B). The revised value co-creation in SDL refers to the actions of multiple actors (possibly unaware of each other) that contribute to each other's benefit. SDL puts the focus on the action of operant resources ("those that act upon other resources" pg. 148; e.g., skills and knowledge) (Vargo, Maglio & Akaka 2008). Rather than putting emphasis on the suppliers' and customers' classification, SDL considers them as actors that produce and supply value at the same time in service ecosystems. However, it does not mean that there are no differences between individuals and business. They do that to escalate the current understanding which is limited to dyadic interactions to a systemic perspective,

which they call “service ecosystem”. The new expansion of SDL is represented in the new foundational premise (FP11): “value co-creation is coordinated through actor generated institutions and institutional arrangements” (Vargo & Lusch 2016, p. 8).

The use of the service ecosystem is to emphasize the interactions that are self-governed and self-adjusting at various levels of aggregation in a flow of service exchanges. This approach emphasizes the role of emerging agreed rules. The participative interactions within online communities create a dynamic network of service exchange that is spontaneously sensing and responding within an ecosystem operating under agreed rules to regulate the interface and exchange (Vargo & Lusch 2010; Vargo & Lusch 2016). Spontaneously sensing means that actors use their senses to determine how and when to respond or act during interaction with other actors. Online communities provide a space for individual participants and the sponsoring firm to interact and learn from each other. In a sponsored online community, interactions between the sponsoring firm and a participant become visible to other participants. The same goes for the interaction between participants and their peers in the online community which becomes visible to the firm. The harmonious relationships in the online community can be achieved through the firm and individual participants' agreed rules.

The focus to exchange in SDL received criticism from Grönroos (2008). The original nature of view marketing as exchanges makes SDL challenging to be used for planning and analysis. Understanding value creation as an exchange limits the attention to short-term value while interactions must exist before a market exchange can occur (Sheth & Uslay 2007). When focusing on interactions, the firm can extend its value facilitation efforts to value co-creation with its customers. Exchanges take place, of course, but the exchange is too elusive to use. In service contexts, it is difficult to assess when an exchange has taken place, and furthermore, the exchange makes the analysis focus on the firm-centric value-in-exchange concept instead of the customers' value creation and the customer-centric value-in-use concept. Therefore, Grönroos (2011b) proposes two distinctive roles for the firm which emphasize the interaction in value co-creation: 1) a facilitator of value creation in a condition where there is no direct interaction with participants which is possible to be planned and controlled 2) a co-creator in a condition where there are direct interactions between customers and the firm. Activities within a co-creator are open product and service creation (Ramaswamy 2009; Vargo, Maglio & Akaka 2008), open completion process (Piller, Vossen & Ihl 2011; Prahalad & Ramaswamy 2002; Vargo & Lusch 2016), and playful activities (Ind & Coates 2013).

Grönroos (2012) suggests a conceptual model of value co-creation. The conceptual model of value creation proposed by Grönroos shows interactions consist of three activities: 1) the sponsoring firm with the physical resources (goods, tangibles, systems), 2) interaction between the sponsoring firm

and customers (interactive communication), 3) interaction among customers (peer communication). The interactions influence value creation experienced by individual participants.

In the joint sphere, interactive communication occurs. Direct interactions between the sponsoring firm and individual participants happen. In the customers' sphere, there are two possible value creations: 1) independent value creation, which is value creation that is independently created; 2) independent social value co-creation, which is value creation that is done by customers only, independent of firm involvement. In this sphere, firm role is as a facilitator. The firm needs to find access to customers' sphere to understand what their customers' needs are. In other words, the firm needs to expand the control and visibility of its role as facilitator. The use of online community sponsored by the firm clears the line of visibility. This helps the sponsoring firm to have direct interaction with their customers. However, this online community should be prepared carefully. Wrong or ineffective use of the online community may have no significant impact or in the worst case destroy value creation. Therefore, the line of visibility is an important issue (Grönroos & Voima 2013).

Figure 2.2 illustrates interactions in SDL and the impact of firm-sponsored online communities. By sponsoring online communities, interactive communication and peer communication is more visible to each other. In this context, the sponsoring firm has more flexibility to get involved in peer communication because part of peer communication becomes visible to the sponsoring firm. On the other hand, interactive communication also can be easily seen by other individual participants. This visibility makes the sponsoring firm role is not limited to propose value but also has an opportunity to directly and actively influence its customer's value creation or in other words, the firm has opportunities to switch role from a facilitator to a co-creator. On the other hand, interactive communication results may also influence independent social value co-creation.

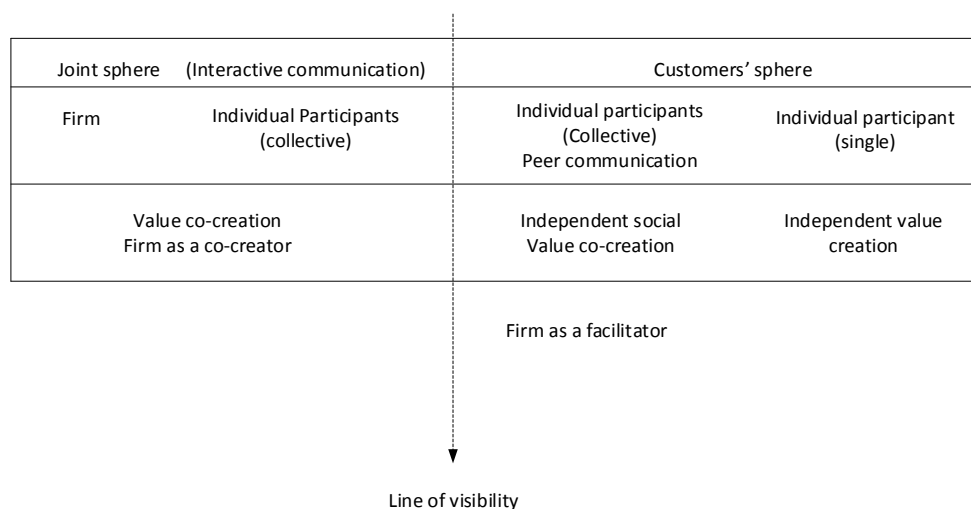


Figure 2.2 Interactions in Service-Dominant Logic (adapted from Gronroos & Voima, 2013)

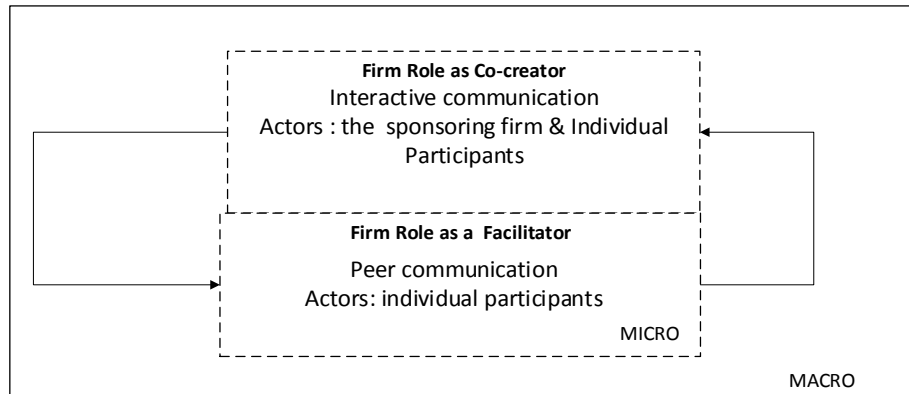


Figure 2.4 Value Co-Creation in Sponsored Online Communities as a Service Ecosystem (Adapted from Vargo & Lusch 2016 and Gronroos & Voima 2013)

However, the SDL concepts work at a macro level with a minimum explanation in micro foundations, while the real causal relations involve lower-level actions and interactions (Storbacka et al. 2016). This makes value co-creation difficult to be observed empirically. At the micro level, between individuals' interactions are observable. For value co-creation to occur, between actor's interactions are essential. They provide a means to integrate resources and collaboratively create value. In the context of firm-sponsored online communities, differentiating firm roles in the interactions makes the value co-creation more observable, and at the same time this also connects the micro level of interactions to a wider perspective at the firm-level construct.

From the SDL perspective, value co-creation is coordinated through isolatable individual rules and norms and interrelated rules (norms, meanings, symbols, laws, and practices) in service ecosystems. Coordination is interpreted as the ongoing process of integrating resources and actors to accomplish the firm goal (Williams & Karahanna 2013). However, in firm-sponsored online communities as an innovative and fluid community, the goals themselves are challenging to be identified. If the goals are equal to the value of innovation where it is not clear what they are looking for, then how do value is ascribed (Monteiro 2018). Considering the assumption that individual participants and the sponsoring firm are continuing the interaction because they believe that there are benefits for now or in the future, then the continuous interactions can be seen as the goal. Therefore, the coordinating role of individual's rules and interrelated rules in the value co-creation ecosystem is done to continue interactions. In this study, coordination is interpreted as the ongoing process of integrating resources and actors in reaching an agreement and making a collective decision so that they continue to participate. Understanding processes of how resources and actors reach an agreement and make a collective decision in service ecosystems are considered by Vargo and Lusch as a precursor to making a better strategic decision.

Service ecosystems can be viewed at the various level of aggregation, which is labeled “micro”, and “macro” level (Vargo & Lusch 2016). Individual and dyadic activities are usually placed at the micro level. Broader societal structure and activities are usually placed at the macro level. All these levels are relative, rather than absolute. The service ecosystem in Figure 2.4 represents two levels of aggregation. First, the individual and dyadic interactions (the sponsoring firm role a co-creator and as a facilitator) are at the micro level. All these interactions are included in a macro activity, which is the interplay of individual rules and collective and interrelated rules in an environment sponsored by a firm. The firm roles as a facilitator and as a co-creator can be seen as interventions to coordinate value co-creation in firm-sponsored online communities.

2.3.2 Human and Technology Agency in Sociomateriality Perspective

From a sociomateriality point of view, an online co-creation community is the result of the intertwining of human relations and technology in the constitution of a community (see: Cecez-Kecmanovic et al. 2014; Leonardi 2013). Sociomateriality can explain dynamic interactions in the digital world (Nambisan et al. (2017) with an emphasis on the role of technology (Brodie et al. 2013). Barrett et al. (2015) outline how a sociomateriality approach can advance service-dominant logic by understanding the use of information technology artifacts by humans. Thus, in this thesis, we apply sociomateriality to theorize and explain the interactions between actors within each subsystem in Figure 3.

The sociomateriality approach distinguishes information systems research from technological determinism and provides a way to make sense of a world in which continuously changing technology is inseparable from continuously changing social practices (Utesheva & Boell 2016). Sociomateriality symbolizes technical and social interests, particularly the intertwining of these to develop institutional arrangements (Cecez-Kecmanovic et al. 2014; Leonardi 2013). The arrangement of technology is called materiality, and social refers to abstract concepts such as norms, policies, and communication patterns (Leonardi 2013). Online co-creation communities are one example of how the technical and the social entangle into one identity (Faraj et al. 2016). Through the lens of information system artifacts, online communities that are created consciously with a purpose (Lee, Thomas & Baskerville 2013) can be identified based on three subsystems: (1) technology, (2) social, and (3) information (Lee, Thomas & Baskerville 2013), despite the fact that information may be difficult to separate from technology and sociality. As explained by Faraj et al. (2016), a digital platform is important for the presence of a vibrant online community, but participant behavior and social interactions are necessary conditions to develop and make sense of the community.

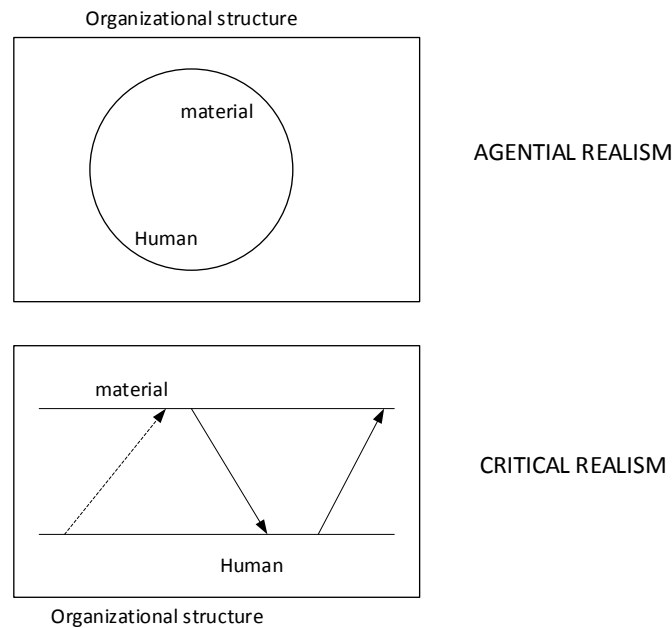


Figure 2.5 Possible theoretical foundations for the conceptualization of sociomateriality (adapted from Leonardi 2013).

According to Leonardi (2013), there are two possible theoretical foundations for the conceptualization of sociomateriality: a sociomateriality framework built on agential realism and a sociomateriality framework built on critical realism (Figure 2.5). Agential realism is where the institutional process is the inseparable practice of sociality and technology. On the other hand, critical realism maintains the distinction between human agency and technology agency. The intertwining of the social and the material develop the organizational structure. While some scholars argue that one approach is better than the other (example: Cecez-Kecmanovic et al. 2014), Leonardi (2013) suggests that these two perspectives complement each other rather than conflict, and scholars may choose that philosophical approach that fits their research questions. The critical realism approach is selected because this study aims to fill in the gap in the technology role in value co-creation; therefore, by differentiating technology from others, we will grasp a deeper understanding of the technology part in the process of value co-creation.

Because the online co-creation community phenomenon is the result of the intertwining of sociality and technology in the constitution of communities, Mynatt et al. (1998) recommend exploring dimensions that represent a balance between technological and human elements, that is, affordances. This view is compatible with the critical realist perspective of sociomateriality (Leonardi 2013) where technology exists independent of people, but affordances do not. Using a relational approach to affordances is useful to explain the consistency of effects within and across organizations; when focusing on relationships and not on the property of technology; and to look at communicative actions

enabled by the combination of technology and people (Treem & Leonardi 2012). In this research, these affordances will help us understand the role of technology to constrain or to enable value creation.

Affordance is described as "possibilities for action ... between a technology and the users that enable or constrain potential behavioral outcomes in a particular context" (Evans et al. 2017, p. 36). Affordance describes a relationship between technology and humans that, for agential realism scholars, cannot be differentiated (Cecez-Kecmanovic et al. 2014). The affordance lens mediates our understanding of how social and material agencies establish social institutions (Leonardi 2013) that are identified as an aid to co-create value in service-dominant logic (Vargo & Lusch 2016). Based on the critical realist perspective of sociomateriality, constraints and enablers are the results of human evaluation of the technology. The evaluation is an affordance if humans perceive that technology will help them to achieve their goals. On the other hand, if the evaluation prevents humans from achieving their goals, it is considered a constraint.

In the firm sponsored online community context, affordances refer to the way in which features in the virtual platform are used to generate value for the sponsoring firm as well as the individual participants. The technology has radically changed the nature and structure of new products and services, spawned novel value creation, value appropriation pathways, and enabled innovation collectives that involve dynamic sets of actors with diverse goals and capabilities (Nambisan et al. 2017). They suggest a call to study how individual participants use technology features to advance and produce theories in innovation. Firm-sponsored online communities are also part of the strategic used by the sponsoring firms to innovate. Although sociomateriality is able to describe the process of technology changes paired with social changes, the study is made in a stable organization where people tend to stay (Leonardi 2011). On the other hand, online communities are fluid organizations, where the firm has less power to retain its members.

Referring to Figure 2.6 and the discussions in sociomateriality, interactions involve not only the individual participants but also technology and social actors. Thus, this study views interactions in value co-creation being made by four actors. The first two actors are actual actors who are the firm as an economic actor and the individual participant. The other two actors are technology and social actors which emerge as the results of actual actor interactions. The technology itself can be seen as material. However, the interpretation of technology emerges as a result of its interaction with the human.

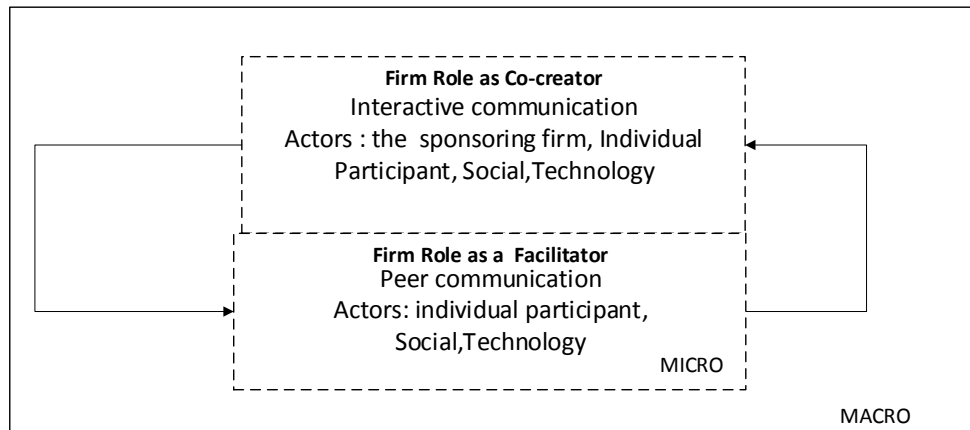


Figure 2.6 Value Co-Creation in Sponsored Online Communities as a Service Ecosystem with 4 actors (Adapted from Vargo & Lusch 2016, Gronroos & Voima 2013, and Leonardi 2013)

2.4 Summary, Research Gaps, and Research Questions

The research problem surrounds how firm sponsored online communities can enable, constrain, and shape value. The literature review identifies several gaps in the literature surrounding value creation in online communities. The following overarching research question has thus been developed to bridge these gaps:

PRQ: How do firm sponsored online communities of interest enable, constrain, and co-create value from an individual participant' perspective?

Underlying this essential question are four supporting questions:

SRQ 1: What are the characteristics and types of online co-creation communities?

SRQ 2: What are the enablers in the community?

SRQ 3: What are the constraints in the community?

SRQ 4: How is value co-created in the community?

This investigation provides a deeper theoretical understanding of value creation in firm-sponsored online communities. Gaps have been identified and numbered. The first gap is related to the limited understanding of firm-sponsored online communities. The second gap is about the lack of studies that bridge the interaction between social actors and technology. The third gap is lack of efforts to integrate enablers and constraints in online communities, and last, the fourth gap is much of the research has been focused on a managerial perspective rather than other stakeholder groups. Table 2.4 summarizes the research questions and theoretical gaps they address, and the corresponding theories underpinning this study.

Table 2.4 Research questions, gaps, and theoretical frameworks

Research Question	Gap addressed	Model/underpinning theory
PRQ	All	Service-dominant logic (Grönroos 2008; Vargo & Lusch 2016), Sociomateriality theory from a critical realist perspective (Leonardi 2011) , Online community as a fluid organization (Faraj, Jarvenpaa & Majchrzak 2011)
SRQ 1	1	Categorization that emphasizes on the social interactions (Felin, Lakhani & Tushman 2017)
SRQ 2	2, 3, 4	Service-dominant logic (Grönroos 2008; Vargo & Lusch 2016), Sociomateriality theory from critical realist perspective (Leonardi 2011)
SRQ 3	2, 3, 4	Service-dominant logic (Grönroos 2008; Vargo & Lusch 2016), Sociomateriality theory from critical realist perspective (Leonardi 2011)
SRQ 4	2, 3, 4	Service-dominant logic (Grönroos 2008; Vargo & Lusch 2016), Sociomateriality theory from critical realist perspective (Leonardi 2011), Online community as a fluid organization (Faraj, Jarvenpaa & Majchrzak 2011)

CHAPTER 3 RESEARCH DESIGN

The objective of this chapter is to outline the research approach and methodology as well as data collection and analysis techniques. Furthermore, this chapter explains the selection and background of the case study and challenges during data collection.

This is an explanatory study, which stresses both exploring and explaining a phenomenon. As depicted in Figure 3.1, this study used a critical realism (CR) paradigm and a multi-method approach including a systematic literature review as well as a multiple case study research which itself includes interviews and online text data analysis. The CR paradigm allows researchers to develop and support in-depth explanations for the outcomes of sociotechnical phenomena, and takes into account the breadth of information technology, social, and organizational factors (Mingers & Standing 2017; Wynn & Williams 2012). Currently there is a lot of literature that elaborates on what a CR paradigm is and what opportunities it can offer to information systems (IS) studies. However, little empirical research in the IS literature has used a CR paradigm, which has led to calls for more empirical studies using this paradigm (Williams & Karahanna 2013). Thus, this study is an attempt to answer this call by employing the methodological principles offered by Wynn & Williams (2012) for the conduct and evaluation of CR case study research.

Figure 3.1 illustrates the research approach, research design, and data collection methods used in this study. First, Systematic Literature Review (SLR) was conducted to provide this study with a comprehensive understanding of online co-creation communities and value co-creation in these online communities. SLR helps to answer SRQ1 and partially answer SRQ2-4 and PRQ. Next, an embedded and multiple case study was conducted to answer the research questions completely. Data collection for the embedded and multiple case study research was conducted by following guidance from Kozinets (2010). This guide helps to observe activities in online forums in an unobtrusive manner (Kozinets 2010; Seraj 2012). A Variety of data sources should be used by researchers for looking into details of how the online technology phenomena can be explained. Therefore, this thesis used a combination of interviews and online community text data across two comparable case studies.

Also Figure 3.1 gives an overview of the data analysis procedures in this thesis, which includes three steps: (i) the interviews as well as textual forum interactions were used to examine events, enablers, and constrains, (ii) based on the knowledge obtained from the literature and the previous step, retroduction inference process with micro-macro analysis by using two units of analysis (Williams &

Karahanna 2013) was used to develop mechanisms of how online communities of interest enable, constrain, and shape value co-creation, (iii) lastly, the empirical corroboration was employed to ensure the mechanisms were able to explain events in online communities. The multiple CR case study is expected to answer SRQ2-4 and also the PRQ completely.

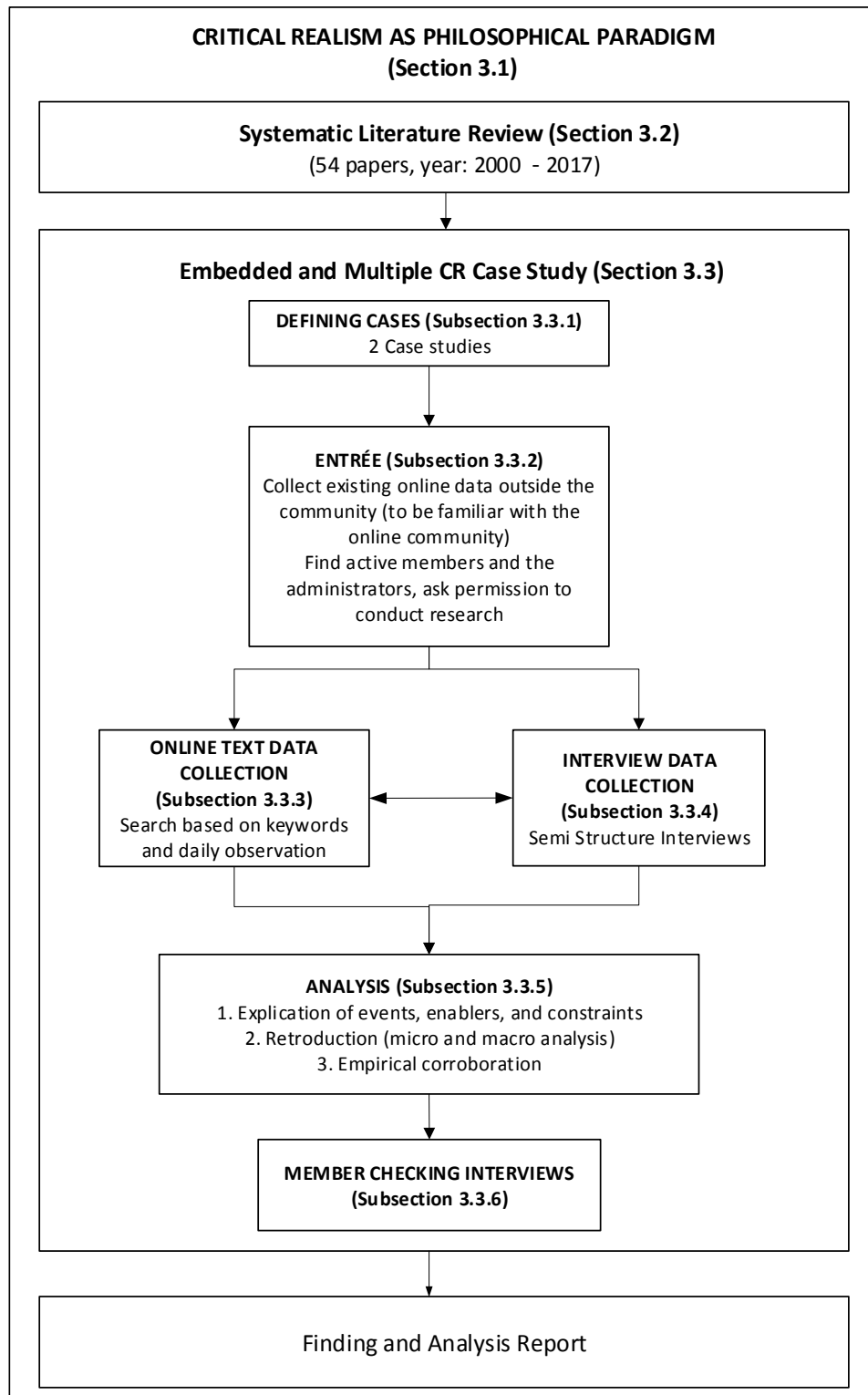


Figure 3.1 Overview of Research Design

3.1 Philosophical Paradigm: Critical Realism

CR is proposed as a prospect alternative to explain information systems phenomena by gaining greater insight into the role of IT artefacts in specific applications. The goal of this paradigm is more explanation rather than prediction (Wynn & Williams 2012). CR, like some other qualitative approaches, may have its own challenges for generalization of results (Tsang 2014; Williams & Wynn 2018). However, this paradigm has the potential of flexibility that gives researchers possibilities to develop a set of theoretical propositions with or without existing theory to act as a guide (Williams & Wynn 2018). Initiated by Roy Bhaskar, CR is developed as an alternative perspective toward argumentation between the empiricist view of science as embodied in positivism, and the idealist view of social science as embodied in constructivism or interpretivism (Mingers, Mutch & Willcocks 2013; Nellhaus 1998). CR believes that “there must be enduring entities, physical, social, or conceptual, observable or not that have powers or tendency to act in particular ways” (Mingers, Mutch & Willcocks 2013, p. 2). This means that existence in the world is signed by a causal effect, regardless of perceptibility. Critical realists see the reality as intransitive (independent of humans) which are stratified into three ontological domains (Laclau & Bhaskar 1998; Mingers, Mutch & Willcocks 2013; Nellhaus 1998): *the real*, *the actual*, *the empirical* (Williams & Wynn 2018). This means that a critical realist accepts the various types of knowledge which have different ontological and epistemological characteristics. It accepts that knowledge is local and historical, but not judgemental relativity (that all viewpoints must be equally valid). Critical realists contend that the way we understand the reality, particularly in the social realm, depends on the individuals' beliefs and expectations, therefore they accept the subjectivity in the understanding of the phenomenon.

A critical realist develops a theoretical explanation by connecting the stratified reality by identifying events and mechanisms (Mingers 2004). First, observable changes that are related to the phenomenon are identified (that is called an empirical event which is then called an “event” in this thesis). The events are in the domain of *the empirical*. An event is an experience which can be directly observed (Mingers 2004). These events are then framed into existing knowledge. This process brings the domain of *the empirical* to *the domain of the actual* by identifying non-events which may not be empirically experienced.

The last domain of reality is *the real*. To understand the domain of *real*, a set of mechanisms that would explain the observable changes is hypothesized, followed by empirically confirming the existence and operation of the hypothesized mechanisms and their effects. A mechanism is a way of acting things in the domain of *real* that enact events. This is also seen as the causes of events that emerge from the structures that exist where these events occur to explain outcomes (Williams & Karahanna 2013). The mechanism is detected through events found in the data analysis. This is also

called the generative mechanism which has the potential to cause an effect but may or may not do so (Blom & Morén 2011).

One example of the relationships in *the real*, *actual*, and *empirical* is when a student investigates how a plant grows. To study this, the student measures the height of the plant, the duration of the plant under the sun, the amount of water, the acidity of the soil, and the mineral in the soil daily for 30 days. The phenomenon of the growing plant is in *the real* domain. *The actual* domain consists of various aspects that affect its growth that may be observable or unobservable by the student. *The empirical* domain includes factors that are observed by the student, such as the amount of water and the soil acidity. The daily data collected by the student is the collection of event, observable changes. To fully understand the phenomenon, the student should be able to explain what has happened to the plant so that these events occur, which is the gradual growing plant. When the student develops an explanation to justify what happened to the plant, the student brings reality into the domain of *the real*. The reason that the student develops is the mechanism of the growing plant. The student may aid the explanation with the knowledge that the student found in the literature but missing from the student's observation. This is when the student brings the reality of *the empirical* to *the actual*. Through literature and observable events, the student can develop essential elements of the explanation which is identified as the structure.

Based on that example, a critical realist should always open themselves to new knowledge. They should be aware of the possibility of unobservable factors; therefore, the findings of a critical realist study should be based on the best current knowledge that they have, but also that it is subject to revision.

3.1.1 Retroduction Approach

A CR study adopts a retroduction (Wynn & Williams 2012), also called abduction, reasoning approach to retrieve mechanisms in the domain of *real* depicted in Table 3.2 (Mingers & Standing 2017). Mechanisms are the interpretation of *the real* which the occurrences are triggered by the current situation (context) and structures. A structure is identified as a system of human relations (social) and seen as physical entities which have emergent properties (Dobson 2001). However, mechanisms may or may not result in any structural and context changes because they are countervailed by other mechanisms. This leads to the retroduction reasoning approach where critical realists make observations of the empirical domain and then hypothesize possible mechanisms. This approach is defined as "the act of proposing speculative—but plausible—conjectures about the nature of a phenomenon, and hence what kinds of evidence might increase the prospects of further insights into it" (Folger & Stein 2017, p. 307). It starts with prior theoretical knowledge to study real-life

observation. However, after a closer investigation of the phenomenon of interest, the prior given knowledge is not able to be fully explained. Therefore, a creative, iterative process of theory matching starts to find a new matching framework or to extend the theory used before the observation.

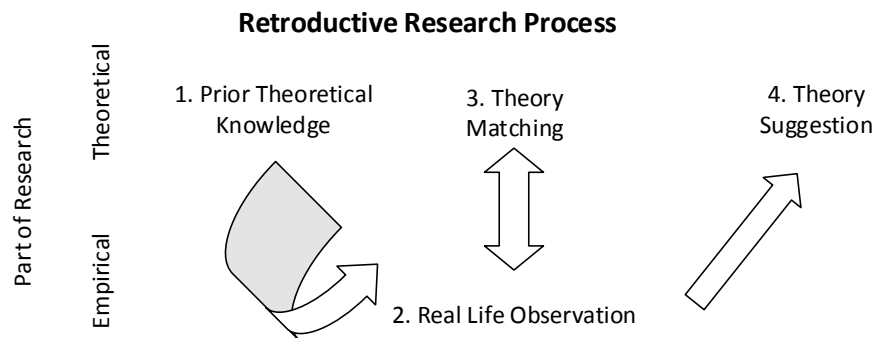


Figure 3.2 The Retroductive Research Process (Kovacs & Spens 2005)

CR acknowledges two types of abduction reasoning approaches: retroduction and retrodiction (Elder-Vass 2015). In retroduction, we identify individual causal powers and the mechanisms that produce them; and in retrodiction, we investigate what mix of causal powers interacted in what way to produce any particular event. Both of them refer to identify mechanism activities; therefore Wynn & Williams (2012) combine both in retroduction to the applications of the logic form. Applying retroduction reasoning to identify mechanisms is challenging because it is not formulaic. Rather, it is highly creative, intuitive, and evolving (Williams & Karahanna 2013). The detailed explanation of each step is presented in the section below (in subsection 3.1.2).

3.1.2 Critical Realism in this Study

Inspired by Wynn & Williams (2012)'s CR methodological principles, the process in Figure 2 is applied in this thesis as follows:

1. It started with Prior Theoretical Knowledge, which was basically a thorough and comprehensive review of the literature and theories. In this thesis, Chapter Two provides a detailed overview of extant literature and theories. Next, Chapter Four presents a systematic review of the literature to offer a comprehensive overview of the prior knowledge in online communities.

Based on the Prior Theoretical Knowledge, next I developed a conceptual model. The conceptual model includes four actors of firm sponsored online communities: Firm, Individual Participant, Social, and Technology. CR methodological principles suggest a CR study should explicate the context and the structure of study. Social and Technology as a material entity as

well as the human interpretation of its features are seen as the structure of firm-sponsored online communities. A context is the set of circumstances that surround the event. The value co-creation event occurs as the reaction of two actual actors: Individual Participant and Firm. Therefore, Individual Participants and Firm conditions are considered as the given context of the events.

2. This study conducted Real Life Observation in two comparable online communities guided by case study research design (Yin 2018). The Real Life Observation produces events, structures and contexts of each online community.
3. The next step was a creative, iterative process of Theory Matching. Mechanisms are detected through events that show the changes in structures and contexts. I put my attention to the value co-creation mechanisms between the firm and the individual participants in those events. Collaboration in online communities is different from other forms of value co-creation because of its ability to produce a collective decision and reach consensus in a fluid organization (Spagnoletti, Resca & Lee 2015). In this study, collaboration is interpreted as the ongoing process of integrating resources and actors in reaching an agreement and making a collective decision so that they continue to participate in creating value for themselves and others. Table 3.1 summarizes the concept of events, structures, and mechanisms in this study.

Table 3.1 Implementation of CR in this study

CR Concepts	Applied to this study
Event	An event is something that happens which is observable and experienced by individual participants in online communities. In this study, one thread in an online community is considered as one event. Events were also identified through interviews. Events were then classified and categorized based on firm roles and their similarities.
Structure	Structure includes social and technology. Social and technology properties as enablers and constraints were identified. Social enablers are emergent properties of human relations while technology is an actual material entity which has features perceived by its users.
Mechanism	This study started its investigation by considering firm roles to navigate the online community. I detected mechanisms based on events collected from online communities and interviews. This study seeks substantive mechanisms that play an important role to coordinate all actors in online communities to participate in value co-creation. The impacts of the mechanisms to the online community as a whole are discussed (to the structure, context, including the variation of activities within the online communities).

Accordingly, this study used an embedded case study where there is more than one unit of analysis in each case study (Yin 2018). The first unit of analysis is the case study itself (the online community) and the second unit of analysis is each interaction between actors which were exemplified by a thread in the online community text. The source of data for this study is interviews and the online community texts. This analysis approach is also called micro-macro analysis (Mingers & Standing 2017; Wynn & Williams 2012), in which the former unit of analysis represents the macro level and the latter represents the micro level. Micro-macro analysis is proposed as a way to understand mechanisms in critical realist study (Mingers & Standing 2017). The micro-macro analysis in this study examined how structures in online communities shape actions and interactions among members (individual participants and the sponsoring firm) and how these interactions produce events which subsequently transform the structures of online communities.

This view aligns with the sociomateriality theory from a critical realist perspective (Leonardi 2013) and also solves the methodological issues that usually occur in studying technology and human interactions in online communities. The complexity of technology and human relationship phenomena creates difficulties to compare different studies because of their uniqueness. Such complexity renders obsolete single unit of analysis approaches that dominate the information systems literature (de Reuver, Sørensen & Basole 2018). Conducting an embedded case study will help to compare different cases within the same technology platform.

4. This study employed empirical corroboration and triangulation to validate the proposed mechanisms for Theory Suggestion. Those strategies are also used by other critical realist researchers (Volkoff, Strong & Elmes 2007; Williams & Karahanna 2013). Empirical corroboration is a validation of mechanisms which ensures the proposed mechanisms have causal power. Empirical corroboration was conducted by repeated confirmation through a series of events from both online communities. To demonstrate the efficacy of the logic, the proposed mechanisms were used to explain a series of events related to a particular topic occurring in the cases. This study also used triangulation which refers to the use of multiple approaches to support findings and analysis. The multiple approaches in this study included two data sources, two case studies, and validation through multiple investigators.

Next is to determine the depth of the analysis in a CR study. The purpose of a study impacts the level of explanation that can be achieved by a critical realist (Dobson 2001). How different purposes of research affect the depth of explanation is depicted in the figure below (Figure 3.3). If the purpose of the study is to define the abstract concepts that are underlying some

phenomena, then the researcher should concentrate on the structures and mechanisms as presented in the picture below whereas generalization tends to concentrate on the events (seeking regularities and common properties at this level). An intensive study involves the consideration of particular contexts and the combination of isolated structures, mechanisms, and actual events. This study is looking for a general explanation to answer research questions. Therefore, this study used a multiple case study and concentrated on the regularities of events. As a result, this study did not attempt to identify an exhausted set of all mechanisms and structures involved in value co-creation. This study looked for enabler and constraint structures and mechanisms that play a substantive role in explaining observed continuous participation to co-create value.

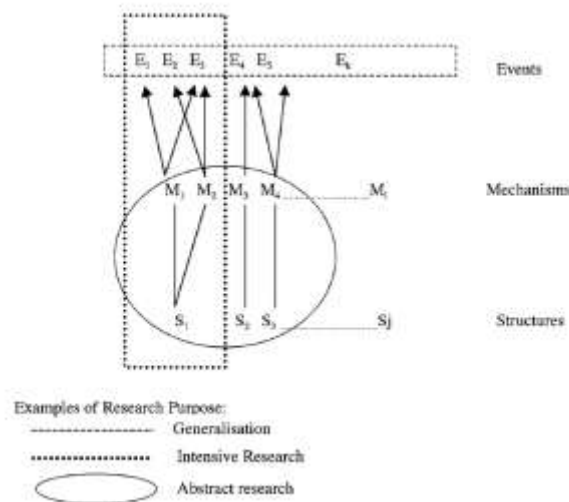


Figure 3.3 Level of Explanation in Critical Realism Studies (adopted from Dobson 2001)

3.2 Systematic Literature Review

This section elaborates on how this study collected prior knowledge comprehensively, which is called the Systematic Literature Review (SLR). The SLR aims to synthesize existing findings and conceptualize what shapes value co-creation in these communities. The approach for conducting the SLR is inspired by Brereton et al. (2007) and Kitchenham (2007), which have been extensively used in prior research (Erfani & Abedin 2014, 2018; Erfani, Blount & Abedin 2016), and the analysis of the selected studies is guided by Durach, Kembro & Wieland (2017). The review includes three primary stages: initiation and selection, analysis and coding procedure, and findings (Figure 3.4).

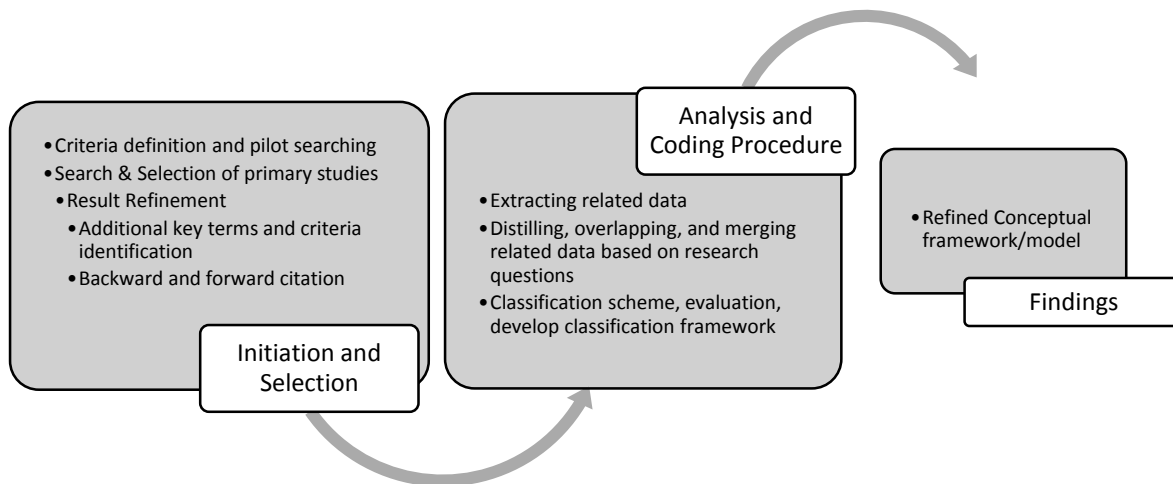


Figure 3.4 Methodological phases

3.2.1 Initiation and Selection

The first step in SLR was to identify criteria to search relevant papers. Criteria definition can be formulated through a combination of knowledge, brainstorming (Gamble, Brennan & McAdam 2016), and expert opinion (Kitchenham 2007). Also, alternative terminology and inherent application categories or practices can be used as additional key terms (Gamble, Brennan & McAdam 2016). For this SLR, the key terms were chosen based on the research questions. These keywords were “value”, “benefit”, “creation”, and “online environment” or “online community”. Accordingly, these five terms and additional alternative terminologies were used as the initial strings. “Virtual” was also used because some papers from the first cycle of searching used "virtual" to express "online." This ensured the search did not filter results based on the type of online communities. Searches were conducted in titles, abstracts, and keywords.

Limiting the subject area or topics for a search is essential because when the results cover autonomous sub-fields, researchers may struggle with an overload of information and the creation of transdisciplinary understanding (Tranfield, Denyer & Smart 2003). Accordingly, one set of results can be considered more relevant compared with others if the subject areas are closer to the main study. Thus, computer science, business, management, and accounting were selected as the subject areas. I also included social science because there are social aspects of online communities. Searching was limited to papers written in English. Instead of using separate databases such as EBSCO, ScienceDirect, and the Association for Computing Machinery Digital Library, I used Scopus as the source for the search which includes papers from all major databases.

The next step was the selection of primary studies, which included six steps (Figure 3.5). The figure illustrates how the 1947 total identified references from the keyword selection were filtered. I started with selection based on keywords, which was followed by applying inclusion criteria. A total of 665

articles met the inclusion criteria. Then, I screened the title first, and this was followed by screening the abstract and the body text. The selection criteria in the title, abstract, and body text steps were individual participants, using an online environment (it could be an online environment only or a mix between online and offline environments), members' perspectives, business-to-customer and customer-to-customer in an environment sponsored by an organization, and peer-reviewed journals. Each screening was conducted twice, and Cohen's Kappa was calculated to examine the reliability of the selection (Kitchenham 2007). Manifestations of reliability are stability (the process is unchanging over time), reproducibility (replicability), and accuracy (the process conforms to its specification) (Krippendorff 1989). Finally, a total of 35 documents meeting all the criteria were selected for the review.

Cohen's Kappa is one way to measure reliability proposed by Cohen (Stemler 2001). Cohen's Kappa measures agreement between two researchers by considering the proportion of the agreement. If it is equal to 1, then the two researchers select the same papers, and it goes to 0 when there is no agreement.

Equation 3-1 Cohen's Kappa

$$\text{Cohen's Kappa} = \frac{P_a - P_c}{1 - P_c}$$

Where:

P_a = proportion of papers on which the researchers agree

P_c = the proportion of papers for which agreement is expected by chance

The title, abstract, and body text screening produced Cohen's Kappa values above 0.4, which according to De Wever et al. (2006) is at an acceptable level and reflects the stability and accuracy of the selection (Stemler 2001). Disagreements in selection were resolved by combining the first and second screening results. In the last selection stage, the disagreement was resolved by reading the body text for the third time, and a decision was made accordingly.

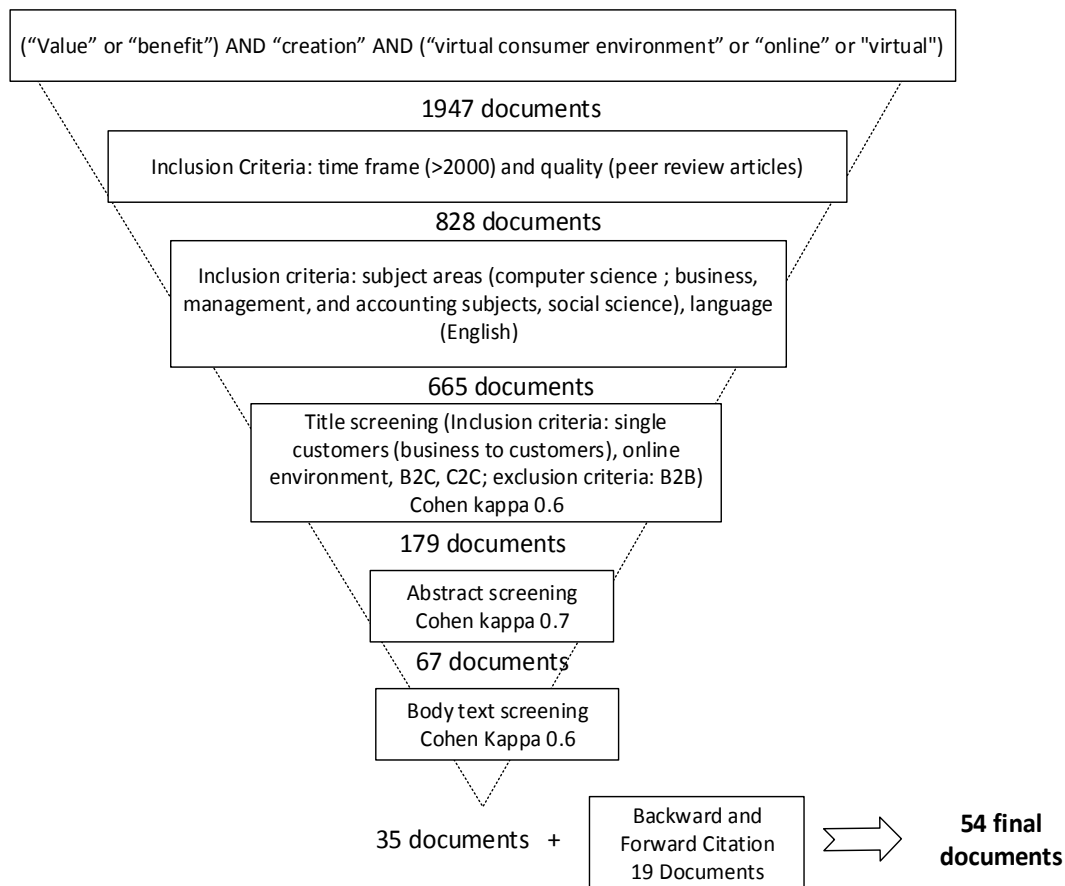


Figure 3.5 Systematic review process.

The last step in selecting a paper was to conduct backward citation. A simple scan of the references checked is suggested by MacDonell et al. (2010). I conducted a backward search by scanning reference lists and then used Google Scholar to identify additional related articles (forward search). After I added the result of both the backward and forward searches, a total of 54 studies were selected.

3.2.2 Analysis and Coding Procedure

To understand the types and characteristics of online co-creation communities (SRQ1), I used the descriptions for collaboration among customers and firms and for the corresponding online co-creation communities, and then carefully studied them to distill, overlap, and merge related concepts. To assess how value is co-created, this study identified and classified individual studies in SDL and sociomateriality to refine or revise the proposed model (Durach, Kembro & Wieland 2017). Given that the interest of this study was in conceptual and theoretical framing, primarily inductive analysis of each publication was conducted which focused on the body of the text. This study focused on papers with conceptual and empirical evidence to identify enablers and constraints. The inductive coding used in this study was sourced from Saldana (2016). The enablers and constraints were extracted based on the actors as explained in Chapter One and Chapter Two. Along with experts and through an

iterative process, which examined the definition of each category and each enabler and constrainer, codes were assigned to relevant subcategories.

Below is an example of how I conducted coding. I found findings or conceptual constructs called “firm sponsoring feedbacks” and “sponsoring firm responses” (Chen, Marsden & Zhang 2012) that related to individual participants’ participation in co-creation. I also found a suggestion for sponsoring firms to modify their responses to customers’ input and develop plans for formal and informal communication (Nambisan & Nambisan 2008). I combined these findings into one category called “formal and Informal communication”. I also found other findings that could be categorized under “share decision making”, “Activity Development”, and “Creative Customer Identification” as exhibited in Table 4.4. All these categories were coded under one theme called “Participatory Leadership”. The example of excerpts for each theme is provided in Table 4.3. I classified this as an enabler under Firm because it is under the control of the sponsoring firm. Figure 4.6 summarizes the findings. Appendix V exhibits detailed coding to develop themes for enablers and constraints.

3.2.3 Quality Assessment of Systematic Literature Review

This study used the following strategies to assess the quality of the review. Firstly, as recommended by Boell & Cecez-Kecmanovic (2015), the reason for the SLR as well as its protocols was explained in Chapter One. Secondly, the reliability of the study selection was calculated using Cohen's Kappa as suggested by Kitchenham (2007). Lastly, process validation and report validation were done to increase the validity of the SLR. Process validation was conducted by independent reviewers to assess the inclusion and exclusion criteria, the protocol, and the provision of single steps that can potentially be replicated by other researchers (Brereton et al. 2007). Report validation was done by conducting an independent external review (Brereton et al. 2007; Kitchenham 2007). The initial findings were presented to external researchers and revision was made according to their reviews.

3.3 Embedded Multiple Case Study Research

This section elaborates on the design of multiple case study research to conduct real life observation and produce theory suggestions. The form of research questions, in terms of ‘how’, ‘whether’, ‘what’, and alike, provides an important clue regarding the appropriate research strategy to be used (Yin 2018). Given that my research question looks at ‘How’ firm sponsored online communities of interest enable, constrain, and co-create value, it makes a clear indication that this is an explanatory study. In this study, the ‘how’ question is being asked about a contemporary set of events over which I have little or no control. Accordingly, case study research is appropriate to be used for this study.

A case study is defined as an empirical investigation that examines a contemporary phenomenon within its real-life context particularly when the boundary between phenomenon and context are

difficult to be separated (Yin 2018). This approach considers multiple data sources and multiple units of analysis (embedded case study). As explained in the subsection 3.1.2 above, this study employed multiple embedded case studies by having two units of analysis: the online community and the action of collaboration to create value between members of the online community. This study included two data sources: the texts from the online community and interviews.

To complete this study, I used Kozinets' guidance to retrieve texts of online conversations and combined this with interviews with individual members of the community. The guidance gives specific guidelines to study an online community, which is located in the online world and the members are physically living in various places, includes the challenges, the criteria for the number of data collected, and the methods to retrieve the data which are not completely described in case study research.

The remainder of this section outlines the procedure of case study research as per Figure 3.1.

3.3.1 Defining a Case

Two basic types of designs are possible for case study research: 1) single case study and 2) multiple case study. The single case study is usually selected if the case is a rare or ordinary case. Multiple case study would provide more confidence in the study's findings; however, to find two or more appropriate cases can be challenging. Two best candidates for multiple case study research are a contrast case or a similar case (Yin 2018).

Initially, the only case study selected for this thesis was Abekani(an) Lovers. After a few months, I came to discover another online community called Berliano Indonesia, which was the only leather bag community that successfully followed Abekani(an) Lovers. Berliano was the second largest online bag leather community sponsored by a firm in Indonesia. Both Abekani and Berliano were among the top five biggest small-medium firms that produce leather bags in Indonesia (Dian 2018). Therefore, to increase the confidence in the study's findings and to create a unique opportunity to make a contrast between two similar cases, I added Berliano Indonesia as the second case study.

Abekani and Berliano can be considered as communities of interest because : (i) both of them focus on the relationship developing between the firm and individual customers; (ii) both of them represent the same product, but the engagement between individuals and the firms do not lead to a specific production of tangible products, (iii) members of both communities share common interests, (iv) both of them offer no specific monetary reward systems, (v) both of them develop a specific culture with its communal rules and regulations. These characteristics are further explained in the Systematic Literature Review Chapter (Chapter Four, Table 4.1). Both communities also satisfy the criteria for

selecting an online community in research, as recommended by Kozinets (2010), which is explained in Table 3.2.

Table 3.2 Case studies (Abekani and Berliano)

Criteria by Kozinets (2010)	Definition	Berliano Indonesia	Abekani(an) Lovers
Relevant	has focused and research question-relevant segment	A vibrant community of interest	A vibrant community of interest
Active	high traffic posting	Yes	Yes
Interactive	Large numbers of discrete threads	At least 10 threads per day	more than 20 threads per day
	A high flow of communication	High responses from other members for each thread	High responses from other members for each thread
	Energetic feel	Passionate members	Passionate members
Data-rich	Descriptively rich data	Various activities in the community	Various activities in the community
Heterogenous	Various participants	Indonesian women (reach up to south-east Asia countries and middle east countries).	Indonesian women (reach up to south-east Asia countries and middle east countries).

Case Study 1: Abekani



Figure 3.6 Abekani Website

Abekani is a small company located in Indonesia that was established on 12 October 2009. Abekani sells various leather bags and pouches in different sizes and models. Mostly, its customers are female.

Abekani does not have any physical outlets and a website to sell its products. Abekani products are sold only through an online community called “Abekani(an) Lover” that is sponsored by the firm.

Abekani(an) lover has more than 20,000 members. The online group was created in early 2015. It is a close online community built on the Facebook platform. The membership opens twice a year. The acceptance process starts from an announcement made by the sponsoring firm indicating when the registration is open. Next, current active members are allowed to nominate their friends to be registered as new members. If the request is granted, any community rule violations made by the new members will also be the recruiter’s responsibility.

The process of owning Abekani bags is challenging, addictive, and at the same time attracting potential customers. Abekani members cannot buy the bag from traditional shops or online retailers. Some models of bags are released once a week in a limited number through their online community. Members have to win the following two challenges to be able to purchase a bag:

- The first one is to put their name in a booking list and compete with more than 10,000 other members for around 100 bags. The booking list is only open for several minutes (around 10 minutes). To put their name on the list, potential customers should correctly answer questions that may be related to Abekani or general knowledge.
- Next, they have to monitor the online community for the confirmation of which names are selected to receive the bag. The schedule of delivery of the bag will be announced in the community with no prior acknowledgment or warning. If a customer does not confirm the delivery details within a few days, their name will be eliminated and will be replaced by another member.

There are other rules after owning the bag that customers are obliged to follow, which are:

- Customers may not sell the bag higher than the original price. Members who markup the price are called “markup resellers” and their memberships are cancelled. Markup price is considered the biggest mistake in the community.
- They have to keep the bag for at least one month before selling to others
- Customers are not allowed to buy another new bag within 2 months which is called an “embargo”.

All of those processes are transparent and closely monitored by other members. They use shared files and other Facebook features to make sure all the rules are obeyed by others. This community is also well known for its close relationships between its members, which can be acknowledged from their slogan “from bags to sisterhoods”. They can recognize each other offline by identifying the bag that

they bring, and as soon as they meet, a further personal relationship can quickly grow. It seems that the bag is not merely a bag but also the identity of the community. Those features exhibit the uniqueness of the online community.

Case Study 2: Berliano

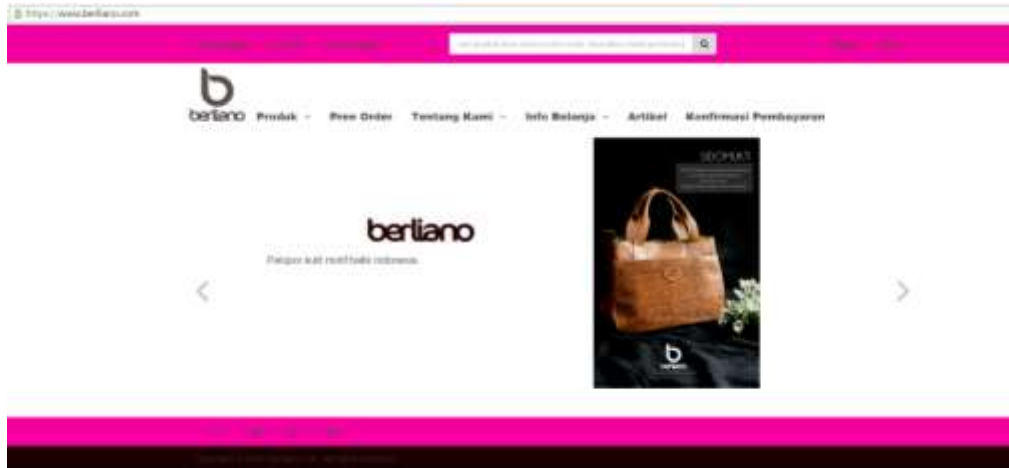


Figure 3.7 Berliano Website

Berliano and Abekani are similar in business size, products, and market. They also have active online communities where they directly sell their products. Berliano started its business in 2011. At first, Berliano sold their bags through a website and using online marketing (via Facebook). In 2016, Berliano started to introduce their bags through an online community. The online community is called Berliano Indonesia. At that time, Berliano sold their bags through various online forms such as website, general forums, and Facebook fans page. At the end of 2017 it copied Abekani success by closing its website and selling Berliano bags only through its online community.

Berliano Indonesia has more than 8,000 members. The online group was created in early 2015. Similar to Abekani(an) Lover community, it is a close online community built on the Facebook platform. People who want to join Berliano should send a request to join Berliano. There are no particular rules to join the community. Future members also do not need to be nominated by current members to be accepted in the community.

Berliano adopts almost all Abekani rules and processes, particularly the bag order process. For example, they use the similar challenges to owning a bag. Another rule that is imitated by Berliano is the embargo. Customers are not allowed to buy a new bag within 2 months after a new bag has been purchased. Similar to Abekani, all of those processes are transparent and closely monitored by other members. These similarities make both communities (Abekani and Berliano) comparable. However,

Berliano has less variation of activities, as most of the activities in this community are related to owning Berliano bags.

3.3.2 Entrée

Entrée is the initial step before a researcher jumps into the online community and is considered important in online community studies (Hine 2000; Kozinets 2010). The researcher should be familiar with the online community by getting knowledge of, for example, its members, language, and rules before conducting data collection. A wrong entrée can lead to destroying the possibility of researching online communities. Having initial data and previous knowledge of the online community are helpful to get access to the community. Hine expressed the importance of a well-prepared entrée in the explanation below (Hine 2000, p. 9):

“composing this message (first contact) took some thought ... While ordinarily I might expect to set up an extended meeting, or at least have the luxury of a telephone call to explain myself and correct any misconceptions, here I felt I had to try to make a good impression straight away ... In ordinary circumstances, when sending email to a colleague or a friend, I can tell myself stories to make sense out of non-response: they may not be in the office today; they may be busy teaching; they might not think my message called for a response. I call on my background knowledge of their lives and fill in details drawn from my own use of email. In the case of these potential informants the stories that I have to tell myself revolve around my inadequacies: maybe my approach put them off; maybe they thought I was being pushy; maybe I looked too amateurish; maybe they have been bothered by researchers before. At this stage I had no background to suggest how soon, or whether, there might be responses to my message.”

Below is the entrée strategy to study and become a member of the online communities under study:

1. I searched through Google and Facebook for anything related to Abekani and Berliano. I found blogs and stories related to both communities. About 20 blog posts (50 pages; 22,000 words) and 50 public Facebook posts (268 pages; 22,000 words) were retrieved. From there, I got some contacts as potential interviewees. I was also hoping these contacts may help me to become a member of those communities.
2. After obtaining an initial understanding of the communities, I sent a short message to those potential interviewees through Facebook messenger or their e-mail. Along with the invitation, I included a link to a website containing my contacts, my research, and an online form with informed consent. I made different web pages for Abekani and Berliano. At first, I only sent messages to my current contact list. Over time, as I knew more people, they helped me to share my link and more people came to join the research (28 people from Abekani and 12 people from Berliano). Examples of the screenshot of the website and the short message are presented in Figure 3.8.

Dear XXX,

My name is Diah Priharsari. I am a Ph.D. student at the University of Technology Sydney (UTS). I read a lot about your community and find it fits my research. My research is about understanding how members create value in online communities. I am therefore very keen to conduct short interviews with a few of the members of this community, and wondering if you can participate. If you are interested, please share me your availability and read consent form in this site:

<https://diahpriharsari.wixsite.com/tasabekani>

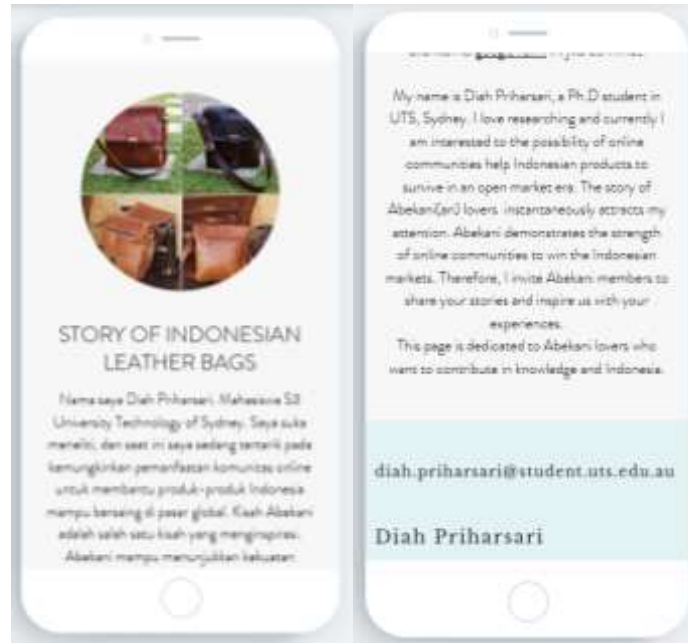


Figure 3.8 The Invitation and the Screenshot of the Online Form to Register Potential Interviewees

3. After about three months trying to join Abekani, I understood that it was almost impossible to be accepted as an Abekani member if I had never met the members face to face. Then I decided to contact the owner of Abekani expressing my research interest. Finally, after having several correspondences, the request was granted.

On the contrary, becoming a member of Berliano required no particular requirements. I only had to submit a request to Berliano admin, and the request was granted for about three months after that.

3.3.3 Online Text Data Collection

Analysis of online text is a popular methodology for studying online communities, as the permanent nature of text-based messaging provides a rich source for studying online interactions (Abedin 2011; Abedin, Daneshgar & D'Ambra 2014). The procedure of data collection was inspired by Healy & McDonagh (2013) who also follow Kozinet's guidelines to observe an online community. Figure 3.1 illustrates these steps. After entrée, observation and interview were conducted to enrich and support the findings of online content. Data collection should continue as long as the investigation was still generating new insights on the area of study. This is usually called as saturation (Kozinets 2010).

Findings found in interpretations were reviewed by members of the online community (which is called member checking) to increase validity and also to generate new insights (Bygstad 2010; Healy & McDonagh 2013; Seraj 2012). The member checking is described in subsection 3.3.6.

This subsection describes the online text data collection, which is significantly different from face-to-face social data collection. For example, observation in face-to-face interactions means putting camera or researchers in the middle of a social interaction that may bring some consequences whereas observation in the online world can be directly download and read as online texts. Although online observation is less obtrusive and can be faster, the excessive amount of online data may overwhelm researchers (Yin 2018). Kozinets suggests guideline to conduct online observation as follows:

1. *Explication of the researcher voice and level of participation*

The participation may vary from reading messages, sending personal messages, or making an online comment. Given the nature of the community that relies on the personal connection to be accepted as a member, I limited my interaction in the community by becoming a passive reader. Becoming a passive reader is a wise option for the following reasons: 1) the author does not want to lose the community trust, 2) limited available time to be accepted as a trusted member of the online community.

I had some advantages in studying both communities because I shared similarities with the majority members of the community, which were woman, Indonesian, and coming from the same age group (between 30 to 45 years). I joined this community only to study it and had little interest in leather bags. From the beginning of the study to the end of the study, I was a passive member of these two online communities.

2. *Identification of online data that is recorded*

This study was looking for the interaction among participants in the online community, thus the researcher did not necessarily need to know precisely who is doing such things. The research put the focus on the social interaction that was represented in the texts. Therefore, per person activity record was not necessary. I recorded threads and the information within threads, which included downloading the date, the poster (firm or individual participants), the main post, and comments. Relevant texts were also extracted from pictures.

Figure 3.9 is an example of what 'Main Post', 'Comment', and 'Thread' means for the data I extracted from Facebook. A thread includes two subsections. The first subsection is the main post section and the second subsection is the comment section. The main post has several data items such as the poster, date, main text, and the number of responses and comments.

The comments contain text comments from other participants. Similar to the main post, other participants are allowed to submit text, pictures, videos, or links.



Figure 3.9 Example of a Thread on the Facebook Platform

3. Criteria to select threads

The online information is abundant and can overwhelm researchers. Setting some limits are essential to control the scope of the research (Yin 2018). Kozinets (2010) provides thumbnails of how much online data should be collected. If researchers are going to code the data manually (including spreadsheets), data collection should be limited to relatively small, 1000 pages of double-spaced text 10-point font or less. If the researchers are going to use a data analysis software program to assist with coding, the data collection can be extended up to 5000 pages. Kozinets gives an example of his work that in total has 560 double-spaced pages 10-point font. These 560 pages represented 432 different postings that contained 131 distinct poster names.

Considering that, this study only downloaded threads that satisfy the following criteria:

- a. Threads that were relevant to some selected keywords. This study focused on threads that were important from the perspective of individual participants. Although

Kozinets (2010) mentions that data selection should be guided by research questions, he does not offer specific guidelines for keywords selection. This study developed strategies for selecting keywords based on interviews as follows:

1. After conducting several interviews, I understood that owning bags was very important for members. Therefore, the first group of keywords was selected based on ways that they use to own bag which included order, bid, and barter. The keywords in this list were added from interviews when I got new additional terms related to how members own bags.
2. The next important thing was the firm representatives. Therefore, the second group of keywords is firm representatives in the online communities which included administrators and the owner. This group of keywords also helped me to track firm activities in the community and how individual participants viewed them.
3. Abekani members mentioned activities between individual participants to show how important those activities were for them - For example one obvious important activity for Abekani is “meeting”. Therefore, a group of keywords related to their activities in the online community was added.

Table 3.3 summarizes keywords for both online communities. Each group had different keywords depending on how the online community names the activities.

Table 3.3 Keywords to select threads

Online community	Abekanian Lovers	Berliano Indonesia
Group of keywords		
Method to own bags and related rules (order, bid, barter, etc)	Barter, Numpang Lewat (an order name), market day (an order name), POJ (an order name), Rebutan (the fight), embargo, markuper (markup resellers)	Barter, Simbah Bagi warisan (an order name), Mendadak Bagi Warisan (an order name), Rebutan (the fight), embargo, markuper (markup resellers)
Firm representatives	Tunjung abekani (the owner of Abekani), Administrators	Berliano (the owner of Berliano), administrators
Meeting, member activities	Meet up, meeting, Lolita (a name of the famous group), games, Lelang (bid), Sumbang (charity), challenge	Meet up, meeting, games, Lelang (bid), Sumbang (charity), challenge,

Not all threads resulted from the searching keywords were downloaded. Redundant threads were removed. If threads were repetitive and similar, then only a few were

selected. For example, repetitive online order threads made by the sponsoring firm weekly were removed because they had the same format and pattern which gave no further insights.

- b. Daily threads on random days. To make sure a representation of unbiased community discussions has also been captured, additional data collection method was applied. I randomly chose and included seven days of entire discussions to the rest of the downloaded data.
- c. Threads that have rich interactions. Rich interactions are important because they represent exchanges between members in the online community (Ivaturi & Chua 2019; Shirky 2008). A thread was considered rich in interaction through a combination of subjective and objective assessments (Ivaturi & Chua 2019). Firstly, there should be more than one participant in the thread which is an objective assessment. Secondly, this is considered rich if there is substantial new information to analyse. This is a subjective assessment of whether exchanges between participants generate new insights that have not been repeated before.

3.3.4 Interview Data Collection

This section elaborates on the steps in conducting interviews. The interview method is different from other methods of data collection because in interviews, participants engage directly in a conversation with the researchers to know deeply about their experiences and how they interpret them (Schultze & Avital 2011). Three types of qualitative interviews are (i) Structured interview. In the structured interview, a complete script is prepared with no room for improvisation. A structured list of questions is the easiest one. However, it prohibits researchers from getting a more profound and richer story of the interviewee. It is usually used in the survey. (ii) Unstructured or semi-structured interview. A script is prepared for this method of data collection; however, there is a need for improvisation. Unstructured list of questions is time-consuming and can be challenging to manage (Gill et al. 2008). Therefore, the unstructured questions are generally used when significant depth is required or when nothing is known about the subject. (iii) Group interview. In a group interview, more than one person is interviewed at the same time. The interview questions can be structured or unstructured.

Although it is a powerful tool, it is advisable for researchers to be more aware of its weaknesses. Examples of the weaknesses are: lack of trust, lack of time, the ambiguity of language, constructing knowledge and interview can go wrong. To deal with that, this study follows Myers & Newman (2007) suggestion which are elaborated on as follows:

1. *Interview Setting*

This stage is related to the location the interview is conducted. Given that participants were geographically located in different places, this study allowed interviewees to select the preferred medium for the interviews. In most cases, they preferred phone interviews.

2. *Interview Questions*

This research used a semi-structured interview. The first reason is that it gives rich data and at the same time it will make sure that the interviewees elicit topics or themes related to the research questions. The second reason is that a semi-structured interview is shorter in duration compared to an unstructured list of questions, which is time-consuming and can be challenging to manage (Gill et al. 2008). The unstructured interview also has the risk of not getting the all-important answers to topics related to the research questions (Rabionet 2011).

3. *Interview Protocol*

The interview protocol is divided into four parts. The first part is the opening to introduce the interviewer. Then it is followed by the introduction of my project, types of questions, the interview process, including interviewee's right to withdrawal from the interview section. The third section is the key questions and finally the close. The complete interview protocol is attached in the Appendix I. The interview questions were tested before the actual data collection to make sure the questions were understandable, and the questions were perceived by interviewees as being respectful and culturally sensitive. In this study, the protocol was tested on three people and discussed with two experts and the ethics committee.

4. *Question Making*

Questions are made as simple as possible reflecting four important things in this research: value co-creation, shapers, enablers, and constraints. The connection between research questions and interview questions are described in Table 3.4.

Table 3.4 Map from Research Questions to Interview Questions

RQ	Definition	Related to	Interview Questions
SQR 2&3: <i>What are the enablers and constraints in the community?</i>	Constraints and enablers are the results of human evaluation of the actors in the online community (Leonardi 2013). The evaluation is an enabler if humans perceive that the entity will help them to achieve their goals. On the other hand, if the	1. enablers 2. constraints	1. What do you get from the community? What does make it valuable for you? 2. How does this community enable you to get what you wish? I mean, what in this community helps you to get what you want? 3. What are the things that can limit what you

RQ	Definition	Related to	Interview Questions
	evaluation prevents humans from achieving their goals, it is considered a constraint.		can get from the online community? Another word, what barriers or issues have you experienced?
SQR 4: <i>How is value shaped in the community?</i>	Value comes from interactions with various parties (Grönroos 2011a; Ramaswamy 2011)	Identify firm roles based on community interactions/activities	4. What activities do this community have? 5. What does the firm do in this online community?

5. *The process: recommendations for qualitative interviewing*

The process of the interviews includes three parts. The first part is the entry. Impression, particularly the first impression, is very important. The second part is the main interview. This is where the interviewer starts to ask key questions. Finally, the interview is ended with the exit. The exit involves leaving the stage by leaving a good impression for further follow-up, and this can be a good opportunity to ask who else should be interviewed.

During the interview, these activities were done to overcome problems that may occur:

- Use mirroring in questions and answers. Mirroring is taking the words and phrases the interviewee use in constructing a follow-up question or comment. This helps the researcher to focus on the interviewee worlds and to use their language. This is also useful to make the interviewee feel comfortable and to minimize social dissonance. To be able to do mirroring, in the interview, I used the interviewee wording and used that again in the next questions.
- Considering interview interaction as conversation (Qu & Dumay 2011). In the semi-structured questions, the interviewer must respond accordingly to differences in the way interviewees understand the world. Unscheduled probing are used to draw out complete narratives and to maintain the flow of the interviewee's stories.

The next thing that should be considered in conducting interviews is the adequacy of interview numbers. Kozinets (2010) and Yin (2018) do not specify the minimum number of participants for interviews. The main reason is that the case study research itself has already included more than one data type that increases its validity and reliability (Yin 2018). Kozinets (2010) suggests the saturation principle as the guideline to identify the adequacy of interview numbers. Given that, this study used the saturation principle to identify the number of interviews. Saturation is reached when no new insight is retrieved from interviewees.

3.3.5 Case Study Data Analysis

Unlike statistical analysis, case study research has no fixed formulas to guide analysis. The analysis depends on what the author is looking for to answer the research questions. In this study, the analysis adopted CR principles, which includes three stages: (1) explication of events, enablers, and constraints from four actors of firm sponsored online communities, (2) retrodution and (3) empirical corroboration. These stages are elaborated on as follows:

1. To explicate events, threads and reported events from interviewees were categorized into two categories based on firm roles (as a co-creator or as a facilitator). If the poster was the sponsoring firm, then it was classified under firm as a co-creator. Threads made by individual participants were classified into two categories. If the thread was initiated by an individual participant, then it was classified under firm role as a facilitator; on the other hand, if the thread was made as a response to firm co-creation calls, then it was classified under firm role as a co-creator.

The next step was the explication of enablers and constraints. This study considered enablers and constraints as the structure and the contexts of the phenomenon. As part of the structure of online communities, technology features used by the sponsoring firm and individual participants were also observed. This was carried out by analysing each sentence in threads and interview script to inductively identify what features that they used and how they interpreted the feature. In addition to that, I also identified other technology that they used to help their participation in the online community.

The explication of events, enablers, and constraints was conducted by using a hybrid approach combining literature-driven template coding that is produced in SLR with inductive generation methods as depicted in Figure 3.10. These strategies were applied to both archival data and interview data. The coding method used in this research was sourced from Saldana (2016). The code refers to a word or short phrases that exist in data. The portion of data coded during first cycle coding processes can range from one sentence to a full paragraph. During the first coding, the initial codes were made based on the SLR findings. I also developed new codes if the findings could not be mapped into the SLR findings.

In the second cycle coding processes, the portions may also be the same unit, longer passages of text, and even reconfiguration of codes themselves. The primary goal during second coding was to develop conceptual constructs from first cycle codes. In this stage, this study adjusted the coding categories to fit the data rather than trying to force the data into pre-identified categories (Volkoff, Strong & Elmes 2007).

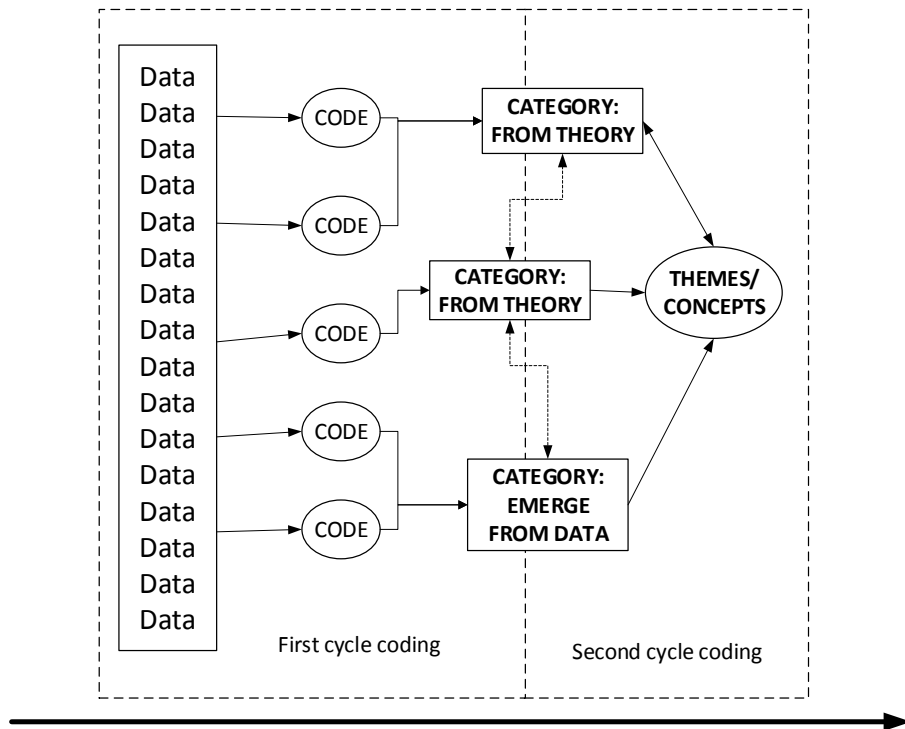


Figure 3.10 Coding Steps Adopted from Saldana (2016)

This study also developed word clouds to show dominant words in interviews and threads. Dominant words found helped me to understand the topics and similarities that were present in the online community. Word clouds are expected to aid analysis on threads and interviews.

2. The second stage was retroduction. During this process, this study identified mechanisms that answer the research questions through two levels of analysis, the online community level (macro level) and the interaction in individual level (micro level). First, firm roles and how the firm switched its role were identified from the interaction in threads and interviews. By carefully studying the events, mechanisms in value co-creation as a collaborative effort among actors were identified. Second, this study also examined changes in online communities to identify mechanisms in the online community level. Logical and analytical support for the mechanisms were also explored.
3. The above stage was then followed by empirical corroboration. To demonstrate the efficacy of the logic, proposed mechanisms were tested on a selected series of events. Series of events are recommended to identify causal mechanisms in CR studies (Dobson 2001; Williams & Karahanna 2013). This study selected similar events that occurred in both online communities in order to produce comparable results.

3.3.6 Member Checking Interviews

The follow-up interviews were conducted to confirm and to gain more insights into the findings and interpretation. This was done by presenting current findings and interpretations to members of the online communities. Two interviewees which were a member of both Abekani and Berliano were selected for this part.

3.3.7 Quality Assessment of Case Study Research

This study followed the quality assessment and suggestions for case study research (Yin 2018). The quality is elaborated on as follows:

1. Concept (construct) validity: while in quantitative studies validity of a construct is examined, in a case study research validity of a concept is done by identifying correct operational measures for the concept being studied by using multiple sources of evidence and having key informants to review the draft case study report (Mays & Pope 2000). In this study, the findings and interpretations were checked by members of both online communities. In addition to that, the coding was also validated by peer researchers. This study also used triangulation to develop a complete picture of the phenomenon.
2. External validity: this shows whether and how a case study's findings can be generalized. A case study should use theory and replicate the study in multiple case studies to increase external validity. In this study, theories and two case studies were selected to increase the external validity of the proposed model. I also used empirical corroboration to validate the proposed model and improve external validity (Tsang 2014).
3. Reliability: demonstrating that the operations of a study can be repeated with the same results by giving a clear exposition of methods data collection and analysis (Mays & Pope 2000). This study does this by elaborating on its protocols in this Chapter. In addition to that, personal and intellectual biases need to be made clear to establish the reliability and credibility of findings. To do this, this study described my voice and level involvement in the data collection to illustrate personal biases in subsection 3.3.3.

3.4 Research Ethics

This study obtained ethics approval for data collection, as outlined in the above, from UTS ethics committee (UTS HREC REF NO. ETH18-2319). The ethics approval ensures data collection is conducted ethically with regards to the University rules for protecting participants' identity and preserving privacy and security of the data collected.

3.5 Summary of Research Design

This chapter has produced a research design to study how communities of interest enable, constrain, and shape value co-creation. This study designed this research based on a critical realist perspective. The nature of online communities in which interactions are available in texts has given this study an opportunity to combine the case study design research (Yin 2018) with the guideline by Kozinets (2010) in investigating online communities.

This section has resulted in four significant contributions by:

- (i) Producing a table of application of critical realist perspective to case study research. The table has provided a translation of the critical realist paradigm into a research design that guides this study to answer the research questions.
- (ii) Providing guidance to conduct SLR and explained how to narrow down a larger list of studies into a smaller (relevant) one and explicating coding procedure.
- (iii) Clarifying the searching method to find relevant threads in online communities which are not explicitly explained by Kozinets (2010). Although the two case studies that were used are alike, they are still different entities that have their own characteristics. Applying totally similar searching keywords may produce biased results. On the other hand, using different searching keywords may also invite questions regarding the comparable findings. In combination with interviews, this study has developed a list of search keywords that do not neglect the uniqueness of each online community while being comparable. The explication of the searching method improves the reliability of this thesis.
- (iv) Delivering detailed explanations for conducting data collection and analysis and also applying theories in a critical realist case study. This is an effort to address one of the critics of the critical realism approach (Williams & Karahanna 2013). The details of data collection and analysis have illuminated the highly creative and intuitive method of the retrodution process, and are also an effort to improve the reliability of this thesis.

CHAPTER 4 SYSTEMATIC LITERATURE REVIEW

This chapter elaborates on the results of Systematic Literature Review (SLR). Firstly, the demographic of SLR is presented. Then, characteristics and types of firm-sponsored online communities based on the SLR findings are explained. This also answers the first secondary research question. The next sub sections discuss the enablers and constraints as well as firm roles to shape value co-creation in the online communities. Based on these findings, a framework of value co-creation is offered. The quality assessment of SLR is elaborated in the “quality of SLR” sub section. Lastly, this chapter is closed with a summary of findings and the limitations of SLR.

4.1 Demographic of Systematic Literature Review

A primary study map is developed to provide the context for the analysis (Brereton et al. 2007) and to systematize the important elements of the selected studies (Boell & Cecez-Kecmanovic 2014). The list of selected studies is presented in Appendix IV. The following items are extracted from the selected studies and are included in the study map: (i) Demographic details of the studies (source, authors, year, disciplines, type of study); (ii) Research design (collection and analysis, literature review, empirical study), (iii) Research abstract and questions, (iv) Findings of reviewed studies and relevant body of the text.

Findings showed that the selected studies were published in peer-reviewed journals in management and business (60%), information systems (30%), and other fields such as the social sciences (10%). As Figure 4.1 shows, selected articles in this review were published from 2000 to mid-2017, with their number consistently increasing over the past few years. From 2016, there was a shift where the number of studies in information systems was higher than the number of studies in business and management.

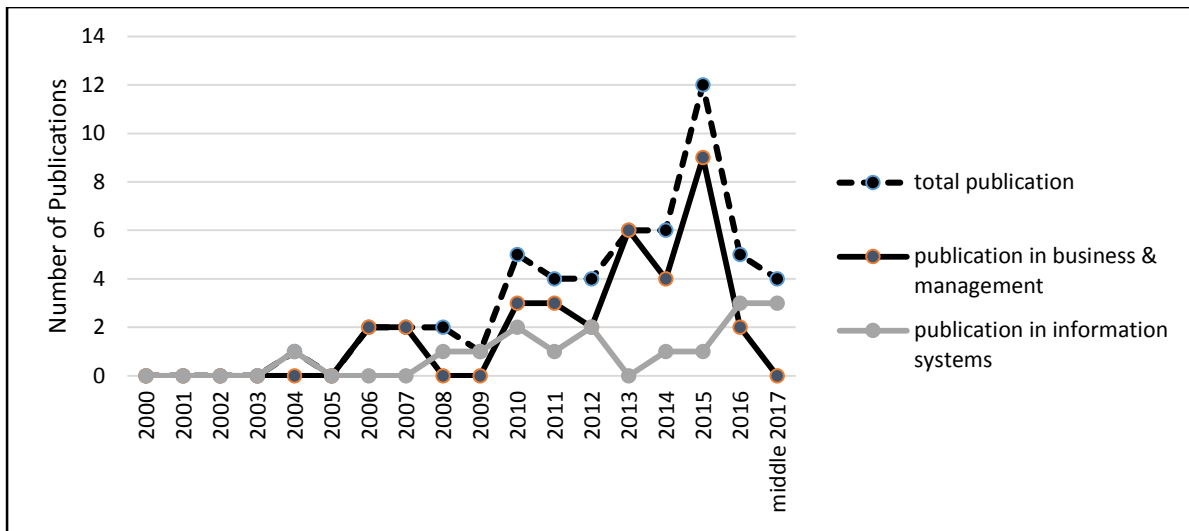


Figure 4.1 Publications per Year

Research into online collaborative communities seems to have been dominated by quantitative research: 47% of studies were quantitative versus 37% qualitative and 11% mixed methods (Figure 4.2). The most commonly used methods were surveys, interviews, and content analysis. Most studies assessed real co-creation communities as the context of the study, only one research (Kohler et al. 2011) performed an action research study, and one study (Zhao & Zhu 2014) conducted a review of the literature. Their scope of the study was limited to the concepts and applications of crowdsourcing and called for information systems scholars to further study the crowdsourcing context from participant, firm, and system perspectives.

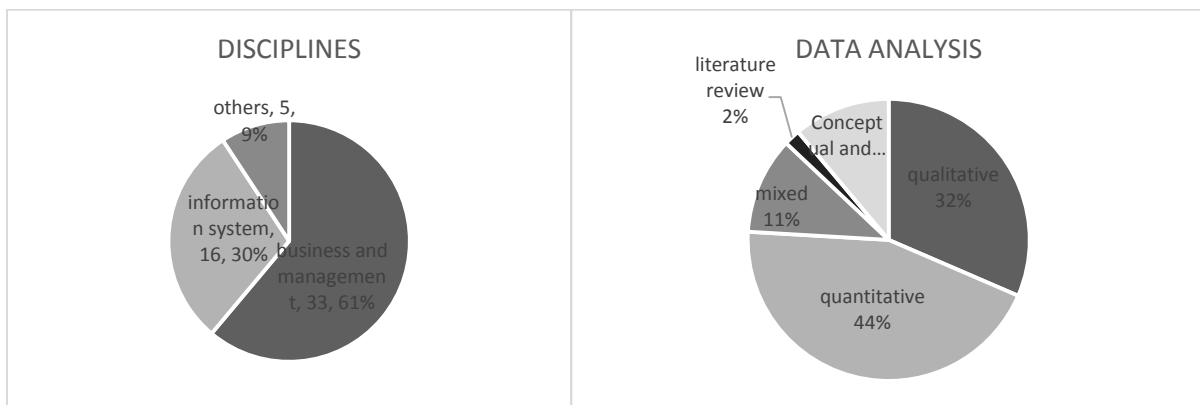


Figure 4.2 Data Analysis and Disciplines

Given the importance of theories in the information systems (IS) research (Mueller & Urbach 2017), this study also looked at the distribution of theories used in the selected papers (Figure 3). It was found that 36 of the 54 studies (67%) provided a theoretical basis to explain, describe, or predict their corresponding research questions. These included a total of 25 theories (Figure 4.3). The findings have projected a higher level of adoption of theories than Zhao & Zhu (2014's review of crowdsourcing in

which only nine out of 55 articles provided a theoretical basis. Service-dominant logic (12 studies) followed by social capital theory (5 studies) are the most cited theories in our selected studies.

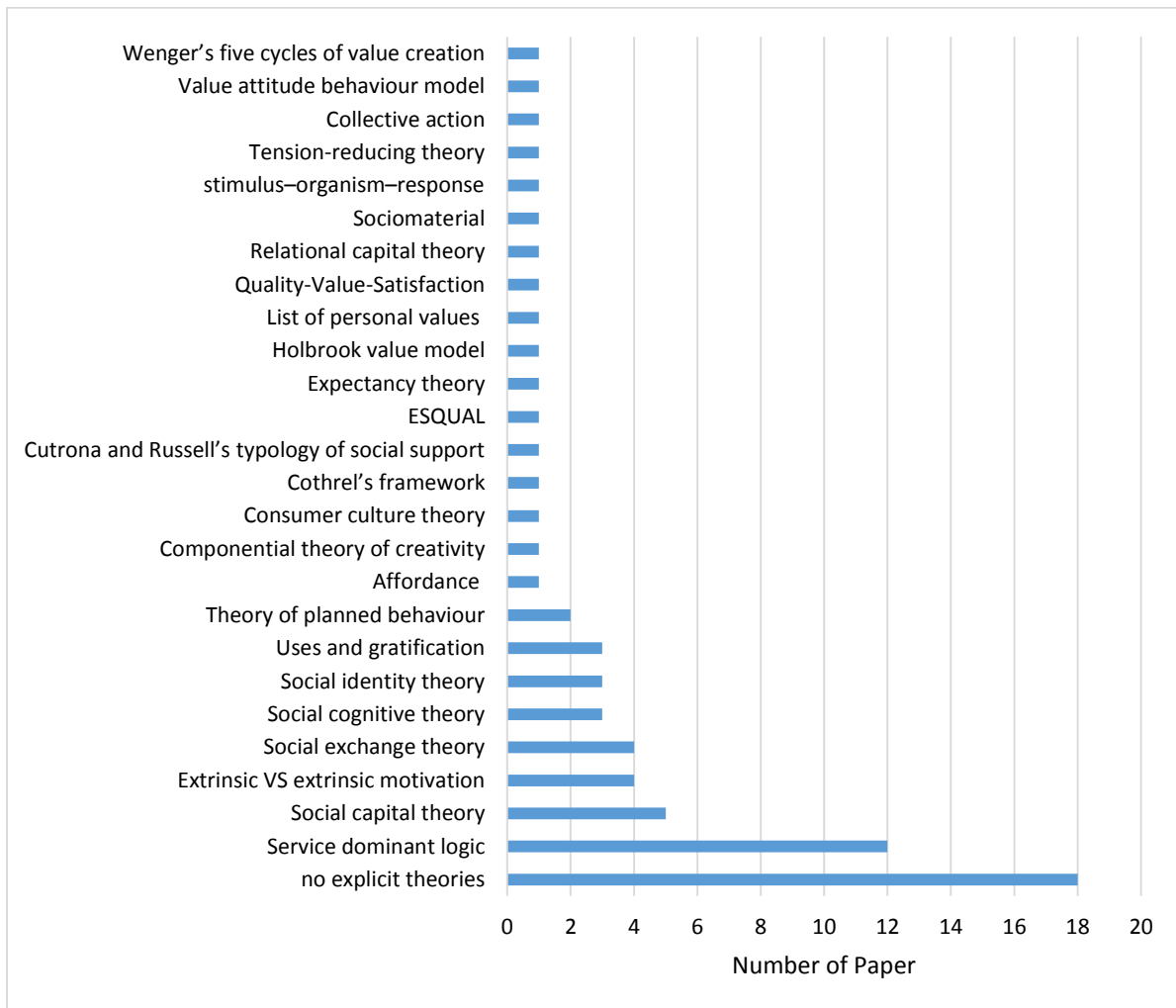


Figure 4.3 Theories Used in the Literature

4.2 Characteristics and Types of Sponsored Online Co-Creation Communities

This section elaborates on the findings to answer SQR1. Of the 54 selected papers, 28 have provided an explicit definition or description for co-creation communities. Results of the review showed many inconsistencies in the definitions used for online co-creation communities and, as Zhao & Zhu (2014) pointed out, the notion of co-creation communities is still under development and is not yet well defined. Another thing that was found is that not all firm sponsorship is explicitly stated. Some of the papers clearly explicate the community is initiated or hosted by a firm (example: Brodie et al. 2013; Gebauer, Füller & Pezzei 2013; Wiertz & de Ruyter 2007). However, there are also papers that do not explicate clearly the firm involvement in the community although there is an organization or firm that can be associated with the community (example: Booth & Kellogg 2015; Seraj 2012; Zhao, Wang & Fan 2015).

The definition that is used in this study emphasizes the need for defining the interactions to collaborate between stakeholders. As I have mentioned in the literature review, the classification of sponsored online communities in this study focuses on the social interaction. There are different ways to visit interactions in co-creation. In this thesis, we present one possible way forward using the open systemic perspective with common characteristics which are input, transformation, and output (Batista, Smart & Maull 2008). Co-creation process can be seen as an open system because first, it requires input. The input means that the system needs participation from individual members to run. Participation may relate to motivation or personal attributes of individual participants (Roberts, Hughes & Kertbo 2014). The input may also be associated with the environmental changes that cannot be controlled by the system. Secondly, entities within the relationship of co-creation (for example individual participants and the sponsoring firm) affect and are affected by each other. The transformation means that the system has mechanisms or processes to transform inputs into outputs. Individual participants and the sponsoring firm interact to develop mechanisms such as rules and norms to regulate their interaction. Hence, the interactions are focused on the pattern of interactions belonging to the online community to transform input into outputs for all members. This includes the process (incentives, policies) and characteristics of the tasks (Zwass 2010). Finally, the output of the interactions in co-creation can be seen from two perspectives, organizational perspective, and individual participants' perspective. The mapping is presented in Table 4.1.

Table 4.1 Mapping Online Co-Creation Communities

Name of Community	Performer		Transformation							Output for Firm	
	Motivation		Incentives		Task Characteristics					Tangible Product	Others
	Reward	Personal relationships	Monetary	Others	With Time Frame	No time frame	Well Identified	Competition	Collaboration		
open source community	Usually non-monetary	medium	Not common	Reputation,	No	Yes	Low	Low	High	Yes	Yes
commercial community	Usually non-monetary	low	Not common	Reputation, recognition	No	Yes	Medium	Low	Medium	No	Yes Various, such as Idea generation, idea selection, market needs
community of interest	Usually non-monetary	high	Not common	Not clear	No	Yes	Low	Low	High	No	Yes Various, such as Idea generation, idea selection, market needs
crowdsourcing community	Usually monetary reward	low	Usually	Not clear	Yes (sometimes)	Yes (sometimes)	High	High	Low	Yes	Yes

Finally, this study classifies all definitions of online co-creation that have been found in the selected literature based on the relationship in co-creation. Accordingly, the study finds types differ in the transformation stage representing by the level of members' self-organization and the output of the community for the sponsoring firm. Table 4.2 illustrates the classification of these types based on the characteristics of the corresponding community, i.e., open source communities, commercial online communities, communities of interest and crowdsourcing communities. This table also presents a description as well as alternative key terms for each type:

- *Open source communities* are production systems (to create content or collaboratively develop objects) that depend on individual actions that are self-selected and decentralized rather than hierarchically assigned (Nakatsu, Grossman & Iacovou 2014; Ståhlbröst & Bergvall-Kåreborn 2011). Open source communities are universally shared resources (e.g., music community sponsored by propellerhead software).

Furthermore, this community does not have specific monetary reward systems and well-defined tasks. The task is more open with no limited time. The obvious characteristic of this community is the self-organization that requires less control from the sponsoring firm in the production.

- *Commercial communities* are firm-hosted online aggregations of customers who collectively co-produce and consume content about activities that are central to their interests as customers. Members of these communities exchange intangible resources (Wiertz & de Ruyter 2007) and focus on peer-to-peer problems (e.g., the service support community for Dell™ customers). Although these communities have nonspecific tasks related to services or products, the members are directed to help the sponsoring firm in specific areas of services and innovation of products. One of the common forms is the community for service support (Wiertz & de Ruyter 2007) but it is not limited to that. For example, customers can be a product conceptualizer, product designer, product tester (Nambisan & Nambisan 2008). The relationship is based on the tasks that are going to be solved. It is not common to have for example just an introduction chat in these types of communities.
- *Communities of interest* are social networks in which members have a shared interest and acknowledge their membership in the groups. This type of community is adapted from the definition of online brand communities by Hsieh (2015) (e.g., the Harley Davidson™ community) and includes online health communities that provide a means for individuals to share experiences and gain support leading to better health outcomes (Stewart Loane, Webster & D'Alessandro 2015) (e.g., the Mjunction.com). These communities are more free of tasks comparing to other types and focus on the development of relationships. Mostly, they

have online and offline interactions to develop a more intimate relationship, for example, brandfest events (Wu & Fang 2010). Communities of interest tend to develop a strong communal identity (Seraj 2012) by having their rules, norms, and vocabularies. For example, in a case study presented by Seraj (2012), *airliners.net*, the members of this community identify themselves as "the wings of the web". Mutual trust is essential in this community (Zhao, Wang & Fan 2015). The communities of interest bring isolated people together to share their experiences and gain an in-depth understanding of one another.

- *Crowdsourcing communities* are large numbers of people providing input towards a specific goal. In most of the crowdsourcing projects, the individual participants are motivated by monetary reward (Zhao & Zhu 2014). The members in crowdsourcing are more varied comparing to commercial online communities and communities of interest. They gather together to solve problems defined by the initiator firm. Ind, Iglesias & Schultz (2013) do not consider crowdsourcing to be a co-creation because of the lack of togetherness in the creation process. However, if we see crowdsourcing as participatory activities where people are invited to join by sending their ideas or comment to others' ideas and discussion is developed among them, then they have online co-creation community's characteristics. The apparent difference between crowdsourcing communities and the others is the presence of well-defined tasks (that is mostly time limited). Commercial communities may have tasks such as in Starbucks™ idea. However, their tasks are not limited by time and not as specific as in crowdsourcing and mostly have no financial reward system. Threadless™ and 99designs™ are examples of crowdsourcing. The request is explicit, that is to develop a design, and a financial reward is available for the selected design. An agency or organization that needs a particular design may start a contest in 99designs™ and select the winner. The winner will get the project (monetary reward).

Table 4.2 Types and Characteristics of Online Co-Creation Communities

Types	Alternative key terms	Description	Characteristics
Open Source Community (e.g., music community sponsored by propeller head software, open-source software communities)	User content development community Social production participatory design Open source community Common based peer production	Production systems that depend on individual actions that are self-selected and decentralized rather than hierarchically assigned to create content or develop collaboratively (Nakatsu, Grossman & Iacovou 2014; Ståhlbröst & Bergvall-Kåreborn 2011)	<ul style="list-style-type: none"> • Production systems • Undefined and unclear tasks • Output products • Self-organized people • Shared resources owned in common • Developed a specific culture with its communal values,

Types	Alternative key terms	Description	Characteristics
			norm, rules, and regulation
Commercial community (e.g., Service support communities such as those for Dell)	Company-sponsored online co-creation brainstorming Firm-hosted user communities	An online community hosted by firms that aggregates customer activities related to their services or products by exchanging intangible resources (Wiertz & de Ruyter 2007)	<ul style="list-style-type: none"> • No tangible product output • Has a specific area of output about information, ideas, opinion • Clear mechanisms of contribution designed by the sponsoring firm • Usually no monetary reward systems
Community of Interest (e.g., Harley Davidson online community. Online health communities)	Online Brand Communities	An online community that consists of people who share a common interest or passion such as brand or health issues, non-geographically bound (Brodie et al. 2013; Laroche et al. 2012; Misra, Mukherjee & Peterson 2008; Ståhlbröst & Bergvall-Kåreborn 2011)	<ul style="list-style-type: none"> • Focus on the relationship developing • Shared common interests • No specific output products • No monetary reward systems • Developed a specific culture with its communal values, norm, rules, and regulation • Self-organized people
Crowdsourcing (e.g., 99Designs, Threadless)	Crowd creation, Wisdom of crowd collective intelligence Innovation intermediary communities; this term is used if there is a neutral mediation	Crowdsourcing is defined as a process consisting of requestors who have tasks and broadcast the task, followed by crowd performs the tasks, and the requestors may select the best solution or integrate the solution (Nakatsu, Grossman & Iacovou 2014)	<ul style="list-style-type: none"> • Clear and well-defined tasks and output products • Explicit reward system (mostly financial) • Private intellectual properties right • Usually, competition based on clear mechanisms of contributions

According to the findings above, two conceptual dimensions of typology possible settings for online co-creation communities sponsored by the sponsoring firm are proposed (Figure 4.4). One dimension is the type of information used by the sponsoring firm which is extensively explored by previous researchers (example: Bugshan 2015; Hippel 1988; Nambisan 2009). The second dimension is our proposed dimension which represents the interaction within the online communities to handle input and produce output. This relates to the forms of social interactions on the individuality of efforts (Felin,

Lakhani & Tushman 2017). The very simplest form of efforts in online communities is made from individual efforts which are aggregated to the collective level. Another form of social interactions is the complex social interactions where common goals, cooperation, and task interdependence exist.

Below is the explanation for these two dimensions:

- Low self-organize vs. high self-organize. Self-organization is a pattern of interactions which are spontaneous and belong to the online community to change their form to maintain value co-creation (Vargo & Lusch 2010). The high self-organization is shown by the capability to respond actively to changes to co-create value, such as self-task distribution or self-leader selection. As a result, there is no clear distinction in the interactions between sponsoring firm and members. On the other hand, less self-organize means that the online co-creation communities do not develop rules for themselves and the control management is highly dependent on the sponsoring firm. The low self-organize is indicated by high dependency to the sponsoring firm, for example, to resolve disputes or to collaborate collective actions.
- Market need vs. solution need oriented. From the sponsoring firm perspective, the information targeted is market needs and solution possibilities (Hippel 1988). Information produced in the online co-creation communities sponsored by firm spans in these two types of information: market needs and solution needs. This typology is focused on the output of the co-creation sponsored by firms. Nambisan (2009) suggests two outcomes of co-creation: an innovation-related outcome and a customer-relationship management outcome. In this typology, customer-relationship management is equal to market need oriented, whereas the innovation outcome is equal to solution need oriented. Taking out the innovation from the outcome is needed to focus on the actual short-term outcome of the engagement in the online communities. This does not mean that the market need does not produce innovation. Either solution need or market need may contribute to the innovation for the sponsoring firm.



Figure 4.4 Typology of Firm-Sponsored Online Co-creation Community

4.3 Enablers and Constraints in Sponsored Online Communities from Individual Participant perspective

This section elaborates on the findings to answer SQR2 and SQR3. I classify enablers and constraints into four categories reflecting four actors (Table 4.4): Firm, Technology, Individual Participants, and Social. Firm reflects the firm that sponsors the online community, Technology is the online platform that hosts the community, Individual Participants are members of the community, and Social is the interaction between Technology, Firm, and Individual Participants.

The underlying subcategories for Social, Individual Participants, and Firm represent the enabler themes that emerged from our analysis of the selected papers for the review. For Technology, themes were informed by threshold criteria for substantiating purposed affordances (Evans et al. 2017), in which the name of each enabler was inspired by corresponding definitions in Treem & Leonardi (2012). I firstly extracted enablers and constraints from different studies, and then aggregated them on the same theme based on their similarities. Examples of the excerpt for each theme are presented in Table 4.3.

Table 4.3 Sample quotes

Enabler	Sample quote
Participatory Leadership	"...actively engaging community members in management and decision making in order to avoid or solve conflicts and create understanding." (Gebauer, Füller & Pezzei 2013, p. 1522)
Reward System	"For example, every year Microsoft selects Most Valuable Professionals from customers who contribute to the product support" (Nambisan & Nambisan 2008, p. 58)
Transparency	"...managing customer expectations and minimizing potential negative outcomes. This requires a high degree of transparency." (Nambisan & Nambisan 2008, p. 60)
Equality	"people should help those who have helped them by returning equivalent benefits" (Wiertz & de Ruyter 2007, p. 352)
Content Quality	"content quality aspects are the critical elements to deliver value through an online community" (Seraj 2012, p. 215)
Sense of Community	"Sense of community has a positive influence on customers' attitudes towards engagement" (Zhang, Kandampully & Bilgihan 2015, p. 319)
Similarity	"The members believe that common experiences and a shared vision help them understand one another more easily and better, facilitate interactions among peers" (Zhao, Wang & Fan 2015, p. 77)
Trust	"Mutual caring and a feeling of being safe were common in OHC members' interactions. These factors also significantly influenced OHC members' interactions, including whether they were willing to talk openly about personal difficulties or express needs for help." (Zhao, Wang & Fan 2015, p. 77)

Enabler	Sample quote
Association	"C2C interactions-related cues in engagement platforms promote interpersonal communication, favoring the development of high-quality relationships with other customers" (Blasco-Arcas, Hernandez-Ortega & Jimenez-Martinez 2014, p. 398)
Interactivity	"Influenced by interactivity and media richness (e.g., Steuer 1992), virtual worlds can increase telepresence (Suh and Lee 2005). Telepresence can be understood as the sensation of "being there" in a mediated environment in time and place" (Kohler et al. 2011, p. 774)
Persistence	"In particular, several NSTA LC members noted the ways in which the Portfolio Tool and the "LibraryTool" enabled them to more effectively leverage growing knowledge capital." (Booth & Kellogg 2015, p. 690)
Visibility	
Motivation	"The results indicate that customer participation in co-creation projects is motivated by four distinct types of benefits and also that co-creating customers differ in their motivational level." (Constantinides, Brünink & Lorenzo-Romero 2015, p. 21)
Personal Attribute	"...a specific personality type leads to a diversity of usage ... influence the motivational factors for users to contribute to innovation activities." (Ståhlbröst & Bergvall-Kåreborn 2011)
Personal Evaluation toward Community	"...customer perceptions regarding the extent to which interactions in the VCE offer these four benefits will shape their actual participation" (Nambisan & Baron 2007, p. 44)
Constraint	
Low Participatory Leadership	"Managers need to avoid the temptation to control the community and instead need to create a flexible environment in which participants feel free to engage in other conversations and activities they are interested in ..." (Ind, Iglesias & Schultz 2013, p. 22)
Unsuitable Reward systems	"...I do not think participants exchanged a lot of new, crucial knowledge. Very few people put forward the sort of knowledge that might jeopardize their chances of winning..." (Hall & Graham 2004, p. 242)
Low Personal Attributes	"Interaction becomes stronger as human capital increases, and a reverse relation also hold true" (Wu & Fang 2010, p. 576)
Low Visibility	"Our findings suggest a more subtle process is present and that replacing intermediaries by the use of self-service technology empowers only certain consumers and not others. Hence, for some individuals co-production does not lead to co-creation of value." (Harrison & Waite 2015, p. 516)

Only a few constraints were reported in the selected papers compared to the enablers within the same categories. The constraints related to the firm are the temptation to control interactions in online co-creation communities (Ind, Iglesias & Schultz 2013) and the use of unsuitable reward systems (Hall & Graham 2004). The temptation to control comes from low share decision making and activity development which falls under low Participatory Leadership. While technology assists in enabling co-creation, presenting too much information and complex features can inhibit value co-creation because that leads to a low Visibility to search and locate information, and a limited understanding of commands and features (Harrison & Waite 2015). An individual related constraint that can inhibit

value co-creation is their capacity to perceive and use the technology to interact with other actors (Harrison & Waite 2015; Wu & Fang 2010).

Unlike constraints, the selected studies report a relatively long list of enablers of value co-creation in online communities (Table 4.4). These enablers are often interrelated and can reinforce each other. For example, sense of community is built by the ability to develop collective morality (Evans et al. 2017; Hall & Graham 2004) that is embedded in the technological system (example: Zhao, Wang & Fan 2015) as well as the social system (Bugshan 2015) to facilitate communication. A sense of community encourages interactivity affordances when there is an opportunity to contribute on an equal basis for all members (Stewart Loane, Webster & D’Alessandro 2015). Then the interactivity makes the connection more attractive, playful (Seraj 2012) and develops equality (Ind, Iglesias & Schultz 2013). Interactivity also creates the opportunity to develop trust and connection that can lead to a sense of community (Ind, Iglesias & Schultz 2013). In addition to that, visibility affordances lead to transparency, which then encourages members to participate (Nambisan & Nambisan 2008).

Table 4.4 Categories, Subcategories of Enablers, and Studies

Enabler Theme	Description	Sources
Firm		
Participatory leadership	Listens and responds to the community by proactively leveraging the power of the virtual community to mutually benefit consumers, for example, by involving participants in decision making, gives them the freedom to share their opinion.	(Chen, Marsden & Zhang 2012; Gebauer, Füller & Pezzei 2013; Hasan & Rahman 2017; Kohler et al. 2011; Nambisan & Nambisan 2008)
Reward systems	Refer to the incentives, financial or non-financial, that provider gives to encourage customer’s participation in value co-creation.	(Füller 2006; Hall & Graham 2004; Hasan & Rahman 2017; Jeppesen & Frederiksen 2006; Nambisan & Nambisan 2008; Zhang, Kandampully & Bilgihan 2015)
Transparency	Clarity and transparency related to the process, role, and outcomes.	(Hasan & Rahman 2017; Nambisan & Nambisan 2008)
Individual		
motivation	Reasons and benefits that the individual receives	(Brodie et al. 2013; Bugshan 2015; Constantinides, Brünink & Lorenzo-Romero 2015; Fernandes & Remelhe 2016; Füller 2006, 2010; M. Kang 2014; Nambisan & Baron 2007; Roberts, Hughes & Kertbo 2014; Schaedel & Clement 2010)
Personal attribute	Quality or characteristic of an individual participant such as interest, knowledge, and skills.	(Füller 2010; Hasan & Rahman 2017; Jeppesen & Frederiksen 2006; Mai & Olsen 2015; Ståhlbröst & Bergvall-Kåreborn 2011)

Enabler Theme	Description	Sources
Personal evaluation toward community	Refers to participant evaluation of interaction experience which includes previous experiences, affective evaluation, and the assessment of what is gained and what is given up.	(Blasco-Arcas, Hernandez-Ortega & Jimenez-Martinez 2014; Füller 2010; M. Kang 2014; Nambisan & Baron 2007)
Technology		
Association	The ability to establish connections between individuals and between individuals and content.	(Blasco-Arcas, Hernandez-Ortega & Jimenez-Martinez 2014; Hasan & Rahman 2017)
Interactivity	The ability to enable members to come together in different ways such as collective or asynchronous contribution by individuals.	(Füller et al. 2009; Hasan & Rahman 2017; Kohler et al. 2011; Misra, Mukherjee & Peterson 2008; Nambisan & Nambisan 2008; Seraj 2012)
Persistence	The ability to provide information in the same form.	(Booth & Kellogg 2015; Hasan & Rahman 2017)
Visibility	The ability to locate information related to knowledge, behavior, preferences, and communication network.	(Booth & Kellogg 2015; Cheung & To 2016; Hasan & Rahman 2017; Kohler et al. 2011; M. Kang 2014; Nambisan & Nambisan 2008; Zhang et al. 2015)
Social		
Equality	The norm of reciprocity and perception of fairness.	(Gebauer, Füller & Pezzeri 2013; Wiertz & de Ruyter 2007)
Content quality	Usefulness and balance between personal opinion and credible information.	(Laing, Keeling & Newholm 2011; Seraj 2012)
Sense of community	A feeling of belonging which is marked by a shared consciousness, shared rituals and traditions, and a sense of moral responsibility.	(Brodie et al. 2013; Bugshan 2015; Chen, Marsden & Zhang 2012; Gebauer, Füller & Pezzeri 2013; Hall & Graham 2004; Healy & McDonagh 2013; Laroche et al. 2012; Nambisan & Baron 2007; Pongsakornrungrungsilp & Schroeder 2011; Wiertz & de Ruyter 2007; Zhang, Kandampully & Bilgihan 2015; Zhao, Wang & Fan 2015)
Similarity	Common connections, interests and hobbies.	(Brodie et al. 2013; Misra, Mukherjee & Peterson 2008; Zhao, Wang & Fan 2015)
Trust	Safe feelings from the environment that is built from policies and cultural norms that enables participants to express ideas and to experiment with new ways of approaching problems.	(Laing, Keeling & Newholm 2011; Seraj 2012; Zhao, Wang & Fan 2015)

Figure 4.5 provides a sense of how much emphasis is given to each enabler and constraint by showing the breakdown of the frequency citations for each enabler. The top cited categories are a sense of

community in 'social', participatory leadership in 'firm', visibility in 'technology', and motivation in 'individual'. Other categories were cited only by few studies. This figure suggests that the reviewed papers have covered all categories with largely focused on the certain aspect within each category.

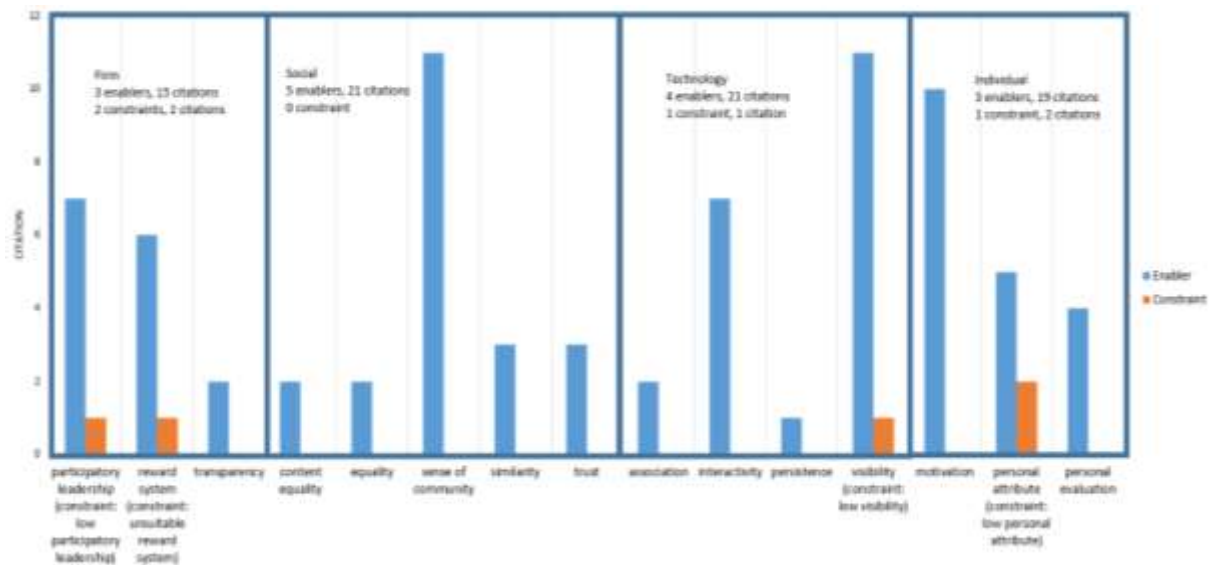


Figure 4.5 Breakdown of Citation to Enabler and Constraint themes

While the earlier research has reported a number of scattered enablers and constraints of value co-creation in sponsored online communities, the interaction between them as well as their classification were not previously explored and elaborated. In this study, we synthesized those enablers and constraints and classified them into four groups: firm, technology, individual participant, and their inter-relationships ('social') as depicted in Figure 4.5.

The study found that constraints and enablers are the results of individuals' evaluation of the technology, the firm, the social, and themselves. Firm related enablers stress that the sponsoring firm should listen and respond proactively to the online community. For example, Nambisan & Nambisan (2008) suggest to modify products or processes to respond to customer ideas and suggestions. Findings also highlight that the design of reward systems, clarity and transparency process, role, and outcome are also important for the firm to attract and retain individual participants to co-create value. As the facilitator, the firm needs to consider individual participants as equal partners.

Individual related enablers represent three individual attributes: motivation, personal attributes, and evaluation toward the online community. Motivation drives individuals' co-creation activities while personal attributes influence the consistent pattern of thoughts, feelings, and actions. Evaluation is a result of previous experiences and what is given up compared to what is received in return. A positive evaluation will strengthen participation in value co-creation. These attributes may either emerge

internally from individual participants or occur because of their interactions with peers in the online community (such as positive and negative feelings generated from their interactions).

Technological enablers are individuals' interpretation of the technology, which manifest itself in association, interactivity, persistence, and visibility capabilities. For example, a repository tool in an online community for educators (Booth & Kellogg 2015). The repository helps educators to share materials that they use in their classes. The repository keeps the material and shows it to other users in the same format. This persistence capability helps other educators to learn what others do in their classes. These capabilities enable members of the online community to interact and co-create value. Finally, social related enablers can help the sponsoring firm to identify what needs to be nurtured in individual participants' engagement. Our findings suggest that the availability of social related enablers help participants to reduce conflicts within an online community actively. For instance, Gebauer, Füller & Pezzeri (2013) found that an individual participant who has high sense of community will help to give positive actions to reduce conflicts in the online community.

Given that only four out of the selected studies reported constraints, there is little known about what limits value co-creation in firm sponsored communities. I find that one hypothesis is that the ecosystem does not work well. This leads individuals to believe that some actors do not assist them in achieving their goals, which may lead the individual to leave the community or not participate. The firm is considered as an economic actor - whether it is for profit or nonprofit - that sponsors the online co-creation community. The participants evaluate the firm through its reward system, leadership, and its transparency. Technology is evaluated based on the affordances it provides to create value for them. Social enablers come from the individual relationship with others (including technology) in the online communities and are embodied in norms, policies, and communication patterns. The second hypothesis is that the ecosystem works well, but as it progresses, some members of the community may find the new environment unfit to their interest, skills, or other personal related factors. In this scenario, the community will stay active, but the individual may leave or stop participating. Once an individual leaves the community, the underlying data for their departure will be lost, and therefore it is important for the firm to monitor the outflow as well as the participation level continuously.

On the other hand, an enabler gives individuals the impression that other actors can help them to benefit from their engagement in the online community. Participants who join, stay alerted, and/or participate in online co-creation communities perceive the firm, the 'social', and the technology as affordances and enablers that help them produce value for themselves. This does not mean that constraints do not exist. The constraints may exist, but when individuals are challenged to create value, they may decide not to join to become a community member or may leave the community in

the absence of perceived value. Therefore, constraints are challenging to identify particularly if we only consider 'active' participants as the source of data. These findings, in turn, call for and encourage future studies to empirically explore and extend our understanding of constraints in value co-creation in online communities.

4.4 What Shapes Value Co-Creation?

This section elaborates on the findings to answer SQR4. Our synthesis of results from the selected studies confirms and unpacks the fundamental role of interactions between actors. We found that value co-creation in online communities is created through interactions between participants and the firm, and within them as well as their interaction with the technology (Elsharnouby & Mahrous 2015; Fernandes & Remelhe 2016; Harrison & Waite 2015; Zhang et al. 2017). For example, Zhang et al. (2017) argue that firms, as a value co-creator, need to engage actively with individual participations in the community. The study discusses some examples of firms' active engagements in the community, through ways such as using reward systems (Blasco-Arcas, Hernandez-Ortega & Jimenez-Martinez 2014; Elsharnouby & Mahrous 2015; Fernandes & Remelhe 2016; Harrison & Waite 2015). Individuals are motivated to participate in such initiatives due to internal and external motives (Fernandes & Remelhe 2016), clarity of tasks, and the use of appropriate technologies (Harrison & Waite 2015).

When a firm takes a facilitator role, it needs to take perspectives of other stakeholders into consideration equally. As a result, the focus in managing online communities switches from an economic-based approach to one that is more spontaneous and playful (Ind & Coates 2013). This suggests that the sponsoring firm should let participants explore opinions and have fun with other participants without expecting any particular outcomes, but rather for the joy of doing so. Individuals' engagements with their peers within online communities are natural as it fulfills their need to socialize and play (Ind & Coates 2013). As a facilitator, however, the firm should be able to connect participants' common interest (Zhang, Kandampully & Bilgihan 2015). These engagements develop the social identity, a sense of community, and shared goals (Healy & McDonagh 2013; Zhao, Wang & Fan 2015) that may bring benefits to the firm (Ind & Coates 2013). However, these lead to consequences such as increased demand to control the firm. A study by Healy & McDonagh (2013) shows that strong engagements of individuals in the community may encourage them to seek more control over the co-creation process.

Zhang, Kandampully & Bilgihan (2015) explained the importance of making a distinction between firm's role as a co-creator and as a facilitator in nurturing online co-creation communities. Although other studies do not discuss much the relationship between these roles, they implicitly demonstrate that facilitating participants' engagement will bring benefits to both the firm and the participants

through encouraging them to stay engaged in co-creation activities (Fernandes & Remelhe 2016; Smaliukiene, Chi-Shiun & Sizovaite 2015).

Only one study used the sociomateriality lens in the online community content for understanding value co-creation (Barrett, Oborn & Orlikowski 2016). This study emphasizes iterative and concurrent cycles of interactions among participants, business strategy and technology capacity to create value. Authors elaborate on the relation between the firm's strategy, customers, and technology as a single bounded sociomaterial configuration. This study shows the importance of technology in online communities as one of the critical actors to co-create value; however, the study treats the combination of various actors as a black box and focuses on antecedent and consequent factors of the sociomaterial configuration to the value co-creation.

4.5 How do sponsored online communities of interest enable, constrain, and shape the value co-creation?

Table 4.5 and Figure 4.6 integrates enablers, constraints, and the four actors in value co-creation ecosystems. The primary advantage of the classification framework is identifying, distilling, classifying, and integrating prior findings on value co-creation in firm-sponsored online communities in one single framework. The firm's roles as a facilitator and a co-creator develop sub-systems that are spontaneously sensing and responding to each other iteratively and concurrently in a service ecosystem. The ability to respond and sense actively will determine the continuation of value co-creation in online communities. Through listening and advocating participants' interactions, the sponsoring firm will be able to develop a detailed understanding of where the firm's offering fits the customer's overall needs.

On the other hand, participants also respond and sense to the firm's co-creation activities. The result of these activities will determine their relationships with others. Thus, value generation in one sub-system will influence engagement in another sub-system in an iterative manner. The use of technology makes the sensing more spontaneous. These ongoing cycles become the engine of value co-creation in online communities.

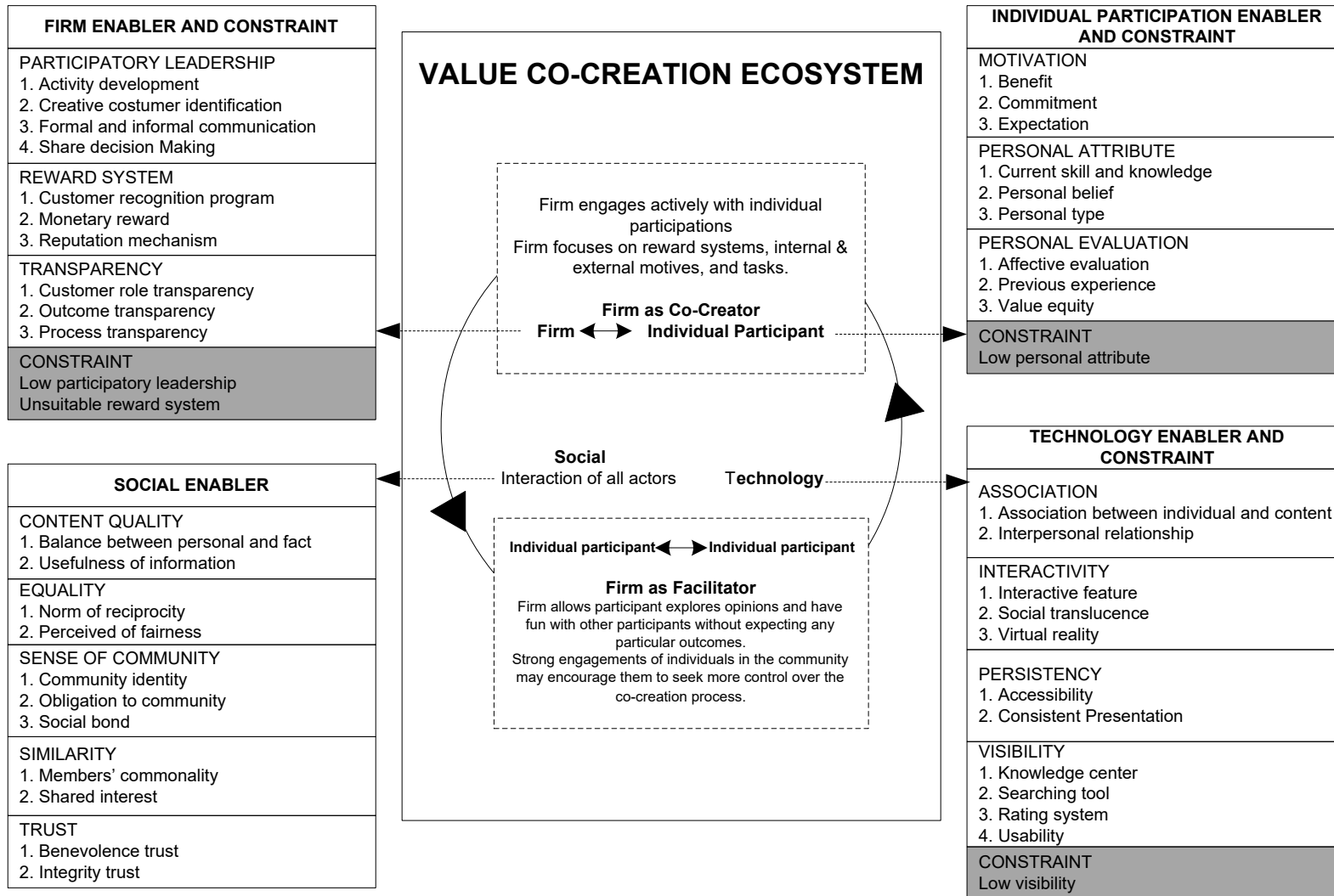


Figure 4.6 Value Co-Creation Ecosystem in Sponsored Online Communities

Table 4.5 Details of enablers (combined with constraints)

actor	Theme	Category	Explanation
Firm	Participatory leadership	Formal and Informal Communication	The development of ways to engage in formal and informal by for example: a dedicated firm representation to bridge communication, procedure to respond to customers, foster informal sociability (Chen, Marsden & Zhang 2012; Kohler et al. 2011; Nambisan & Nambisan 2008).
		Share Decision Making <i>Constraint: low share decision making</i>	The development of plan to engage community members in management and decision making (Gebauer, Füller & Pezzeri 2013) <i>low share decision making (Ind, Iglesias & Schultz 2013)</i>
		Creative Customer Identification	Refers to leaders' tendency and mindset to engage creative customers in creation of value and support their initiatives and innovative ideas. (Hasan & Rahman 2017; Nambisan & Nambisan 2008)
		Activity Development <i>Constraint: low activity development</i>	Refers to promoting and opening opportunity for co-creation by developing a form of play rather than intended seriously with all customers as co-partners (Hasan & Rahman 2017; Kohler et al. 2011) <i>low activity development (Ind, Iglesias & Schultz 2013)</i>
	Reward systems	Monetary reward system	Monetary related reward systems (Füller 2006; Hall & Graham 2004; Hasan & Rahman 2017; Nambisan & Nambisan 2008)
		Reputation Mechanism	Reputation gained as a result of co-creation participation or other non-monetary rewards. (Jeppesen & Frederiksen 2006; Nambisan & Nambisan 2008)
		<i>Reward suitability</i>	<i>Suitability the reward selection with the nature of challenges and participants (Hall & Graham 2004)</i> <i>Taken from constraint: unsuitable reward selection</i>
	Transparency	Customer Role Transparency	The clarity and transparency of roles of customers in co-creation participants (Nambisan & Nambisan 2008)
		Process Transparency	the clarity and transparency of processes related to the firm and participant relationship, including the nature of the processes, who is involved, the time sequence (Hasan & Rahman 2017; Nambisan & Nambisan 2008)
		Outcome Transparency	keeping customers informed about what is happening to their inputs (Nambisan & Nambisan 2008)
Individual	Motivation	Benefits	benefits from interaction in the community, such as: monetary reward, show ideas, gain knowledge, intrinsic motives, curiosity (Constantinides, Brünink & Lorenzo–

actor	Theme	Category	Explanation
			Romero 2015; Fernandes & Remelhe 2016; Füller 2006; Nambisan & Baron 2007; Schaedel & Clement 2010)
		Expectation	a belief about what benefits that will be received in the future (Füller 2010)
		Commitment	Commitment is enduring desire to continue a relationship accompanied by his willingness to make efforts at maintaining it (Brodie et al. 2013; Bugshan 2015; M. Kang 2014).
	Personal attributes	Current Skills and Knowledge <i>Constraint: Low skills</i>	current state of skills and knowledge of the persons (Füller 2010; Jeppesen & Frederiksen 2006) <i>low skills (Harrison & Waite 2015; Wu & Fang 2010)</i>
		Personality Type	A personality type is unique characteristic patterns of a person (Füller 2010; Hasan & Rahman 2017; Mai & Olsen 2015; Ståhlbröst & Bergvall-Kåreborn 2011)
		Personal Value	Personal values are defined as concepts or beliefs about desirable end states or behaviours that transcend specific situations, guide selection or evaluation of behaviour and events, and are ordered by relative importance (Mai & Olsen 2015)
	Personal evaluation towards the community	Affective Evaluation	customers' attribution of positive feelings generated from their interactions in the community (Nambisan & Baron 2007).
		Experience	Personal experiences related to the co-creation process (Blasco-Arcas, Hernandez-Ortega & Jimenez-Martinez 2014; Füller 2010)
		Value Equity	Value equity represents a customer's assessment of what is given up (i.e. the price paid for the product) compared to what is received in return (value), for example: a good price-quality ratio points to high-value equity (M. Kang 2014)
	Social	Sense of community	Social Bond
Community Identity			Refers to creation of the codes, norms, and tradition that become community identity (Healy & McDonagh 2013; Pongsakornrungrungsilp & Schroeder 2011)
Obligation to the Community			A sense of responsibility to assist others in the collective. This includes peer feedbacks (Bugshan 2015; Chen, Marsden & Zhang 2012; Laroche et al. 2012; Wiertz & de Ruyter 2007)

actor	Theme	Category	Explanation
	Trust	Integrity Trust	Trust to others, that other members will follow generally accepted rules (Laing, Keeling & Newholm 2011; Seraj 2012; Zhao, Wang & Fan 2015)
		Benevolence Trust	Trust to others, that other members are genuinely concerned about their welfare and benefits (Seraj 2012; Zhao, Wang & Fan 2015)
	Similarity	Shared Interest	Refers to the similarity of interest to a particular objects (Brodie et al. 2013; Misra, Mukherjee & Peterson 2008)
		Members' Commonality	Refer to similarity of experiences, vision, background, and knowledge (Zhao, Wang & Fan 2015)
	Content Quality	Usefulness of Content Discussion	The discussion is useful for its participants (Laing, Keeling & Newholm 2011; Seraj 2012)
		Balance Between Personal and Facts	The balance amount of information between personal experience and facts (Laing, Keeling & Newholm 2011)
	Equality	Norm of Reciprocity	Refer to the norm of people should help those who have helped them by returning equivalent benefits. (Wiertz & de Ruyter 2007)
		Perceived of Fairness	Refer to the fairness of interactions and non-written rules in the online community (Gebauer, Füller & Pezzeri 2013)
Technology	Association	Interpersonal Relationship	It is also called as social tie technological features which refer to features that support interpersonal relationship, such as add friends, add group, etc (Blasco-Arcas, Hernandez-Ortega & Jimenez-Martinez 2014; Nambisan & Nambisan 2008)
		Association between Individual and Content	Refer to features that support relationship of individual with a piece of information, such as contributor list, tagging (Nambisan & Nambisan 2008)
	Interactivity	Social Translucence	Design features that provide customers with social cues that offer richer social experiences and permit richer customer discussions, such as emotion, feeling, etc. (Hasan & Rahman 2017; Nambisan & Nambisan 2008)
		Interactive Feature	Refer to embedding social network and media web-based technologies to create highly interactive platforms. This includes develop interactive features such as sharing, posting, commenting, virtual locations (Hasan & Rahman 2017; Kohler et al. 2011; Misra, Mukherjee & Peterson 2008; Seraj 2012)
		Virtual Reality	Simulation tools that combine technology and human interactivity to produce stimulating experiences (Füller et al. 2009; Kohler et al. 2011; Nambisan & Nambisan 2008)

actor	Theme	Category	Explanation
	Persistence	Accessibility	Refer to online platform constant availability and reliability (Hasan & Rahman 2017)
		Consistent Presentation	Refer to constant format and presentation of data that is input to the system (Booth & Kellogg 2015)
	Visibility	Rating System	A system that provides information about the rating of a product. This includes review, number of likes, etc (Nambisan & Nambisan 2008)
		Information Center	A system that can feed customers the right knowledge and information at the right time. (Nambisan & Nambisan 2008)
		Usability <i>Constraint: Complex feature</i>	Having a simple, easy-to-use customer interface combined with fast and highly intuitive navigation features. This includes attractiveness and clarity of the instructions and contents. (Cheung & To 2016; Hasan & Rahman 2017; Kohler et al. 2011; M. Kang 2014; Nambisan & Nambisan 2008; Zhang et al. 2015)
		Searching Tool	Refer to feature that helps participants to search. For example, "LibraryTool" enabled a group of educators to search particular knowledge written by peers. (Booth & Kellogg 2015)

4.6 Quality of SLR

This study followed some strategies to assess the quality of the review. Firstly, as recommended by Boell & Cecez-Kecmanovic (2015), concerning the research questions, this study explains the reason for the systematic literature review as well as its protocols earlier in the Introduction. Secondly, the reliability of the study selection was calculated using Cohen's Kappa as suggested by Kitchenham (2007). Lastly, this study uses process validation and reported validation to increase the validity of our systematic literature review. Process validation is conducted by external researchers to assess inclusion and exclusion criteria, the protocol, and the provision of single steps that can potentially be replicated by other researchers (Brereton et al. 2007). Report validation is done by conducting internal and external reviews (Brereton et al. 2007; Kitchenham 2007), with first and second supervisors conducting the review to validate the results that were initially found by me. Five external experts have reviewed the protocol and findings. One of the suggestions for example, to change the names of some enablers. Ultimately, revision is made according to their assessment.

4.7 Summary of Findings and Limitation

The SLR produces a rich picture of value creation in online co-creation communities and facilitated continued inquiry into online community practices. The findings of the extensive review of the literature have led to (i) the identification types and characteristics of firm-sponsored online communities, (ii) the identification of simultaneous roles of sponsoring firm as the co-creator and as the facilitator, (iii) the identification of four actors in sponsored online communities and the uncovering of enablers and constraints for value co-creation in online communities that are coming from these four actors. These findings are significant to the development of understanding in managing sponsored online communities.

This chapter reviews and synthesizes past research in value creation in firm-sponsored online co-creation communities considering participants' perspectives as well as other actors. The research recognizes and identifies the contextual nature of the reviewed literature; inconsistencies in definitions including unclear firm sponsorships in the online community; the characteristics and types of online co-creation communities and the value created in the communities for the sponsoring firm and also the individual participants. Accordingly, four types of online co-creation communities that are possible to be developed by a firm are identified. The firm sponsored online community types are used to limit the scope of this study and to identify the context of this study. This chapter also reviews the shapers, enablers, and constraints from the participants' point of view. Because these findings are based on the literature, the limitations of the reviewed papers may also apply to this research. This challenge is managed carefully and explained in the quality assessment section. However, this does

not guarantee that the findings are immune to the common limitations of literature reviews (Boell & Cecez-Kecmanovic 2015). For example, the dependency on the selected keywords brings the implication that I may not retrieve relevant papers which are not using those keywords.

CHAPTER 5 FINDINGS OF INTERVIEW AND CONTENT ANALYSIS

This chapter presents findings from both case studies in four sections. The first and second sections are the overview of each online community, which includes routine events, recruitment procedures, and demographics of downloaded online texts and interview respondents. The third section covers the findings of online text analysis. Then, interview findings are presented in section four.

The data collection, the interviews and the text of online discussions, took eight months (February – October 2018) for both online communities to be completed. Next, this study presented the findings to a number of members of these two communities in early 2019 to ensure the results make sense to them. Table 5.1 shows the information and a summary of the amount of data collected from the two case studies.

Table 5.1 Total Data Collected

Note	Community	Abekani	Berliano
Background Information			
Number of members		Over 20,000	Over 8,000
Number of threads in one day		Over 20 threads/day	Over 10 threads/day
Online Text Data Collection			
Range		2015 to 2018	2016 to 2018*
Total number of analyzed threads		417 threads**	155 threads**
Total Number of analyzed comments		31,247 comments**	4,149 comments**
Interview Data Collection			
Interviews		15 Individual members	11 Individual members
Member Checking Interviews		2 Individual members of both online communities	

* Section 3.3.1 outlines the reasons for the difference between the data range for these two communities

** Section 3.3.3 outlines the selection of threads which justifies the difference between the numbers of threads/comments for these two communities.

5.1 Demographics and Background: Abekani

5.1.1 Routine Events

Abekani has six routine activities scheduled by the firm that guide members' participation in the online community. However, these are not strict rules and members are still allowed to post a thread about other activities outside scheduled routines as long as those unscheduled threads do not disturb the main theme of that day. The scheduled activities are:

- a. Monday, called the accessory day

This is the day that members are allowed to sell anything related to bag accessories and maintenance.

b. Tuesday, called the challenge day

This is the day that the sponsoring firm or anyone challenges other members. Some of them give surprise presents for the winner, some others don't.

c. Wednesday, called the barter day

On this day, individual members are allowed to post a thread offering bag swap with others.

d. Thursday, called Abekani of the Day

Abekani of the day is the day when members post are about their bag collections. Sometimes they also share their personal stories.

e. Friday, called the order day

This is the most important day in a week. On this day, Abekani sells their bags. A day before, Abekani informs its members about types, colors, and quantities of bags that they are going to sell on the next day. On Friday, at the exact time announced by the firm, the order is opened. Hundreds of members are ready to order at that time. Every member, who wants to order, should put their name on an order list. Abekani uses Facebook comments or Google forms to complete the order process. All bags are sold in 10 minutes or less. Members call this activity "the fight". The order results are informed immediately to members. The file is shared and can be opened by everyone in the community. The order list is very important for members. Members like to check the order list even though they do not order a bag. Any mistakes will be reported in the group and fixed immediately by the sponsoring firm.

The bag order ("the fight") brings a similar sensation as a game for the following reasons. Firstly, individual participants have to compete with others to get a bag in a limited time. Secondly, competition sensation is fun. Some of the members showed the enthusiasm and are proud of themselves when they can win the competition. For example:

"wow... this feeling... I want more and more and more and more", Interviewee C.A
"Abekani, a bag for fighters. For determined people, she will come.", Thread 26 Jan 2016 posted by an individual member.

f. Saturday, called the market day

On Saturday, participants may sell their bags. Sometimes, the owner also sells bags without any information before (surprise sells).

g. Sunday is a day off

No restrictions on this day, and people can post anything as they wish.

5.1.2 Recruitment Process

They changed the recruitment process in the middle of 2015. Prior to this date, the existing Abekani members were allowed to invite people that they may or may not know well to join the community. The administrator would approve the proposed candidates. However, these online processes brought some problems, such as:

1. New member learning processes are annoying for previous members. For example:

*“new members usually ask the same questions over and over again”, Interviewee G.A
“as learners, they complain a lot about how difficult it is to buy our bags. To get an Abekani bag, we have to fight, and it is normal for a new member to wait for months until she gets her first bag. They just spend one month here and already complained about this”, Interviewee D.A*

2. Double accounts and markup resellers who are not welcomed in the community.

Therefore, after mid-2015, Abekani requests new future members to come to offline meetings conducted by their members before they can be accepted in the online community. This process is believed will help the community to diminish double accounts and is seen as an effective way to introduce Abekani rules.

5.1.3 Data Collection

566 community threads from 2015 to 2018 were downloaded (169,614 words-1,602 pages). The threads were selected through two mechanisms:

- a. Extracted by using keywords

The selection method for keywords was outlined in subsection 3.3.3. Online Text Data Collection.

- b. Sampling days

Threads on seven random days were downloaded. The combination of step a and b resulted in 566 threads.

- c. Removal of repetitive threads and threads with no comments

This step produced a total of 417 threads for the analysis. Based on Kozinets' thumbnail, this number is considered adequate.

5.1.4 Demographics of Content Analysis

Figure 5.1 shows the downloaded threads coming from two retrieval methods. Threads made by individual participants dominated the conversation. A jump in the number of threads in the middle of 2017 was caused by a big event called “Meet Up Akbar Abekani”. Meet Up Akbar Abekani is an Abekani offline meeting attended by Abekani members all over Indonesia (including overseas members).

Another jump (from May to June 2018) was caused by Abekani new membership opening. During that time, more threads were made to welcome new members and remind them of Abekani long-established rules. The first graphic in Figure 5.1 depicts the range of time of results based on keywords. The increasing line trend from the end of 2016 to 2018 shows that the discussion about important things for individual participants increased.

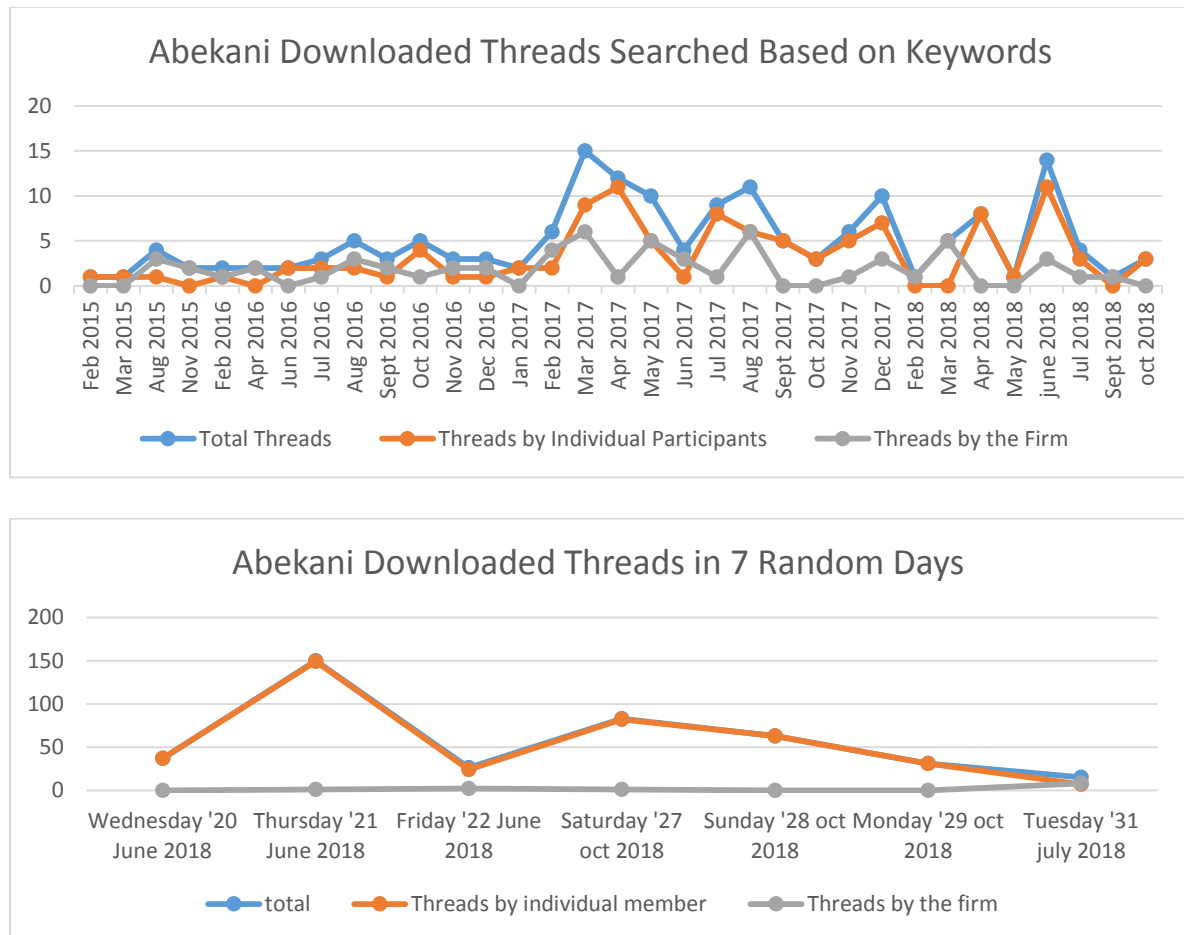


Figure 5.1 Graphics of Abekani downloaded threads

Figure 5.1 shows that there were days with a very high number of threads, and there were days with a relatively lower number of threads. Thursday is one of the members' favorite days. On that day, individual participants share their bag collections and personal stories. Thursday is also admitted by the Abekani administrator as the day with the highest activities.

“the highest activities are in Thursday”, Thread 15 April 2018 posted by the sponsoring firm.

On Friday, the number of threads was only slightly above 20, which is considered very low compared to that of other days. Posting new threads or comments on Friday is avoided by most of Abekani members because Friday is the order day. The auto updated timeline feature provided by Facebook makes any new threads and comments on Friday appear on the top of the timeline. On different days,

this feature is liked; however, on Friday, members do not want to see any new threads but “the fight” thread. If they miss the “fight” thread, they lose their chance to order the bag. Soon after “the fight” thread has been published and the order has been closed, members are free to post threads. On that day, some members share their joyful feeling of having their order placed, and some others share their sadness (in a positive way). Monday and Tuesday are the least favorite days in a week because on those days no Abekani bags are sold or bartered. That explains why only a few threads were made in those days.

5.1.5 Demographics of Interview Participants

All interviewees were women with aged between 32-43 years old. Two interviews were conducted face to face, nine interviews were done by phone, and the rests were done by texts (e-mail, Whatsapp, and Facebook messenger). Each interview took around 45 minutes (417 minutes of recordings in total + 13 pages of correspondences). Most of the interviewees have been Abekani members for one year or more. Table 5.2 describes the details of the interviewee demographics.

Table 5.2 Number of Abekani interviews

Membership years	number of interviewees	percentages
1 year	2	16.67%
2 years	2	16.67%
3 years	10	88.33%
4 years	1	8.33%
Membership roles	number of interviewees	percentages
Area coordinator	5	33%
Regular member	10	77%
Age	number of interviewees	Percentages
30-35 years	8	53.33%
36-40 years	6	40.00%
41-45 years	1	6.67%
Occupation	number of interviewees	
Housewife	6	40%
Working woman	9	60%

5.2 Demographics and Background: Berliano

5.2.1 Routine Events

Similar to Abekani, Berliano has routine scheduled activities in its community. However, different from Abekani, Berliano does not allow members to post a thread outside its schedule.

These scheduled events are:

- a. Monday, called the wishlist day
This is the day that members express their interest to own particular types of Berliano bags.
- b. Tuesday, called the barter day
In this day individual members are allowed to post a thread offering bag swap with others.
- c. Wednesday, called the Berliano Day
Berliano day is the day when members are allowed to post their bag collections.
- d. Thursday, called the sharing knowledge Day
This is the day when the sponsoring firm or anyone shares their knowledge or experiences related to Berliano or leather bags.
- e. Friday, called the order and review day
This is the most important day in a week. Berliano copies Abekani selling procedures. On Friday, at the exact time announced by the firm, the order is opened. All bags were sold in 10 minutes or less. Similar to Abekani, the order list is shared and checked by members. Any mistakes will be fixed immediately by the sponsoring firm.
- f. Saturday, called the progress day
This is the day when Berliano reports the bag order progress. The report consists of the number of individual participants who have already received their orders, the names of individual participants who are going to receive their bags.
- g. Sunday is a day off
No restrictions on this day, and people can post anything as they wish.

5.2.2 Recruitment Process

Different from Abekani, Berliano member registration is straighter forward. Individuals who want to join the community will only need to click the join group button. Several times in a year, the firm accepts join requests.

5.2.3 Data Collection

170 community threads (55,521 words – 1,195 pages) from 2016 to 2018 were downloaded and analyzed. The threads were selected through two mechanisms:

- a. Extracted by using keywords
The selection method for keywords was outlined in subsection 3.3.3. Online Text Data Collection
- b. Sampling days

Online postings 14 – 26 July 2018 were downloaded (2 weeks). Berliano has fewer threads in a week in comparison with Abekani. Therefore, it is decided to have a longer period for sampling. This resulted in 170 threads.

d. Removal of repetitive threads and threads with no comments

This step produced a total of 155 threads for the analysis. Based on Kozinets' thumbnail, this number is considered adequate.

5.2.4 Demographics of Content Analysis

Figure 5.2 shows the downloaded threads coming from two retrieval methods. Threads made by individual participants dominated the conversation. Overall, the number of threads was lower than that of Abekani. The second graphic in Figure 5.2 shows there were days with a relatively high number of threads, and there are days with a relatively lower number of threads. The lowest number of threads was on Thursday. Thursday was a day dedicated to sharing knowledge or information related to bags (particularly Berliano bags). Monday, Tuesday, and Wednesday were quite busy. Those were the days where members were allowed to share their wish to buy second bags or their Berliano collection. On Monday, the thread number was relatively high compared to that of other days. The thread numbers decreased on Friday because it is the order day. Sunday was the day with the highest number of threads.

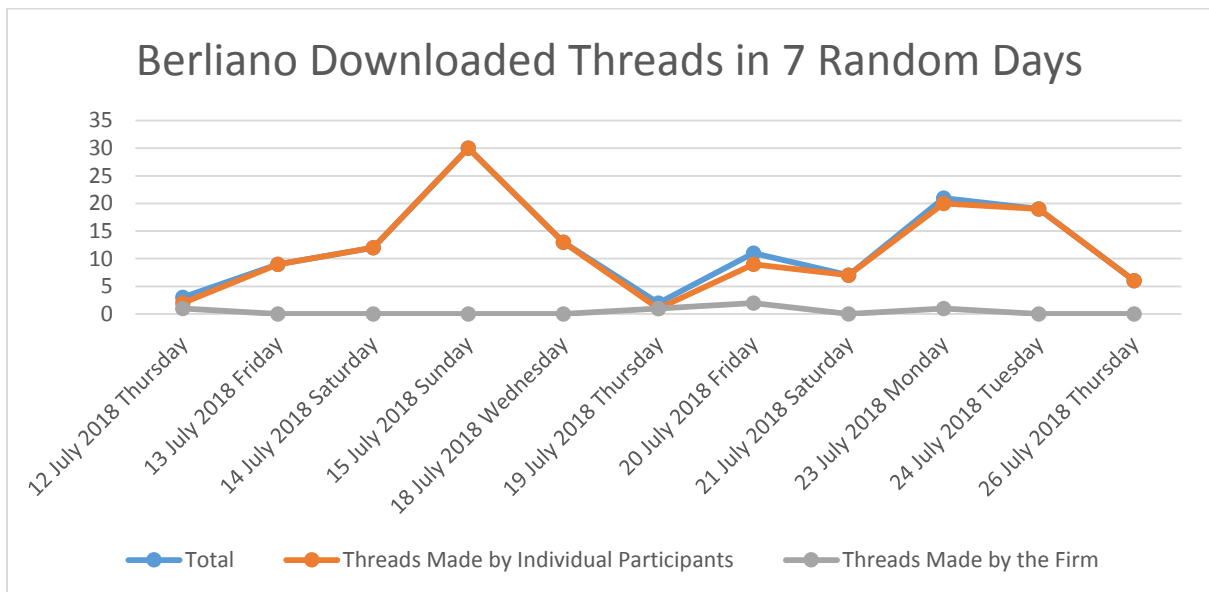
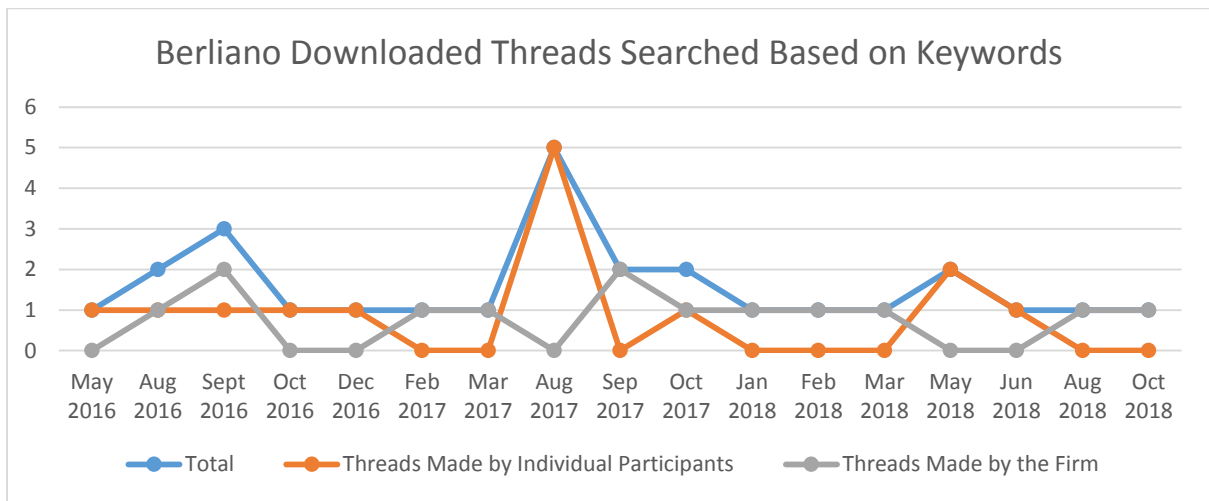


Figure 5.2 Graphics of Berliano downloaded threads

5.2.5 Demographics of Interview Participants

All interviewees were women with aged between 30-40 years old. Seven interviews were done by phone, and the rest were done by texts (e-mail and Whatsapp, and Facebook messenger). The interviews were done for around 20 minutes per interviewee (160 minutes of recordings + 9 pages of correspondence). Most of the interviewees have been Berliano members for one year or more, but none of them are longer than three years. There are two interviewees who have decided to leave Berliano group. The interviewees are dominated by working women (73%). Table 5.3 describes the details of the interview demographic.

Table 5.3 Number of Berliano interviews

Membership years	number of interviewees	percentages
< 1 year	2	9%
1 years	5	45%
2 years	3	27%
3 years	1	9%
Membership roles	number of interviewees	percentages
Regular member	11	100%
Relationship With Berliano	number of interviewees	percentages
Out from Berliano	2	18%
Active Member	9	82%
Age		
30-35 years	5	45%
36-40 years	6	55%
Occupation		
Housewife	3	27%
Working woman	8	73%

5.3 Findings of Content Analysis

5.3.1 Enablers in Sponsored Online Communities from Individual Participants Perspective

This section presents findings to answer SRQ2, “*what are the enablers in the community?*”. The procedure of content analysis followed the data analysis procedure explained in subsection 3.3.5. First, for each thread, I mapped sentences into each category of enablers and constraints as per Table 5.4 and Table 5.5. A new category of enablers and constraints was created if the findings could not be mapped into the above list. Figure 5.3 shows the aggregated findings for enablers per online community, with the number on the left side indicating the number of threads. Technology is the dominant enabler in both communities (55% in Abekani and 77% in Berliano).

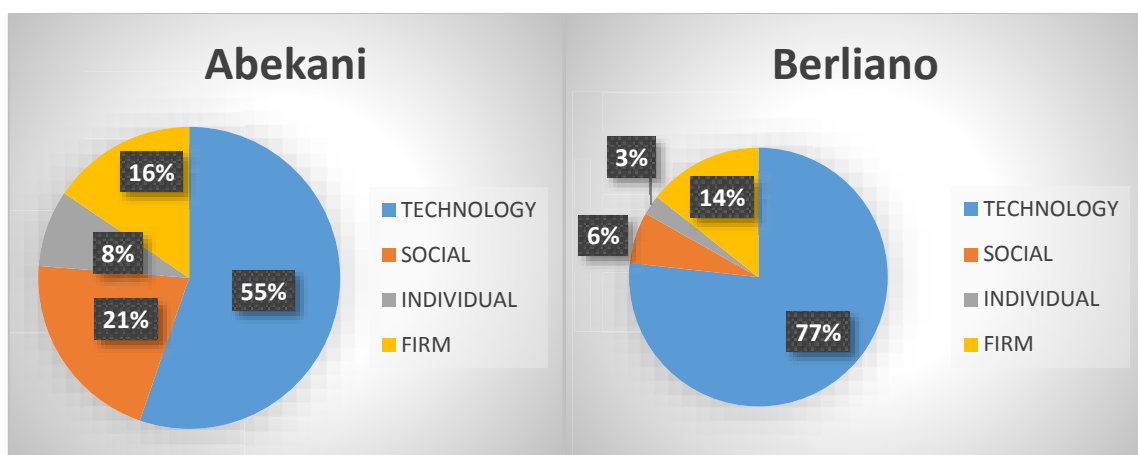


Figure 5.3 Distribution of content analysis evidence for enablers in Abekani and Berliano

Table 5.4 illustrates the number of evidence threads in each theme of enablers found in the online text in percentages and numbers. Association, Interactivity, Persistency, Sense of Community, Motivation, and Participatory Leadership are enabler themes with the highest evidence in each category of actor. First, Persistence, Interactivity, Association is 31% in Abekani and 32% in Berliano. These percentages are so much higher than other themes in Technology. Second, Sense of Community is 67% in Abekani and 53% in Berliano. Those percentages are also so much higher than other themes in Social. A similar pattern is found in Firm with Participatory Leadership reaching up to 84% in Abekani and 89% in Berliano. However, a slightly different pattern occurs in Individual Participant. The percentage of Personal Attributes and Motivation in Abekani are not too different, although in general (in Abekani and Berliano), Motivation dominates Individual Participants.

Table 5.4 Theme of Enablers in Each Online Community

ACTOR	THEME of ENABLERS	Evidence in ABEKANI		Evidence in BERLIANO	
		Number of threads	in % per actor	Number of threads	in % per actor
Technology	1.1 Visibility	88	6%	5	1%
	1.2 Persistence	417	31%	155	32%
	1.3 Interactivity	417	31%	155	32%
	1.4 Flexibility *	22	2%	10	2%
	1.5 Association	417	31%	155	32%
	TOTAL EVIDENCE	1361	100%	480	100%
	TOTAL THREAD WITH EVIDENCE	417	-	155	-
Social	2.1 Similarity	20	11%	5	29%
	2.2 Sense of Community **	120	67%	9	53%
	2.3 Content Quality **	18	10%	0	0%
	2.4 Equality	4	2%	1	6%
	2.5 Trust	17	9%	2	12%
	TOTAL EVIDENCE	179	100%	17	100%
	TOTAL THREAD WITH EVIDENCE	158	-	13	-
Individual Participant	3.1 Personal Attributes	28	44%	1	17%
	3.2 Motivation	29	45%	5	83%
	3.3 Evaluation Toward the Community	7	11%	0	0%
	TOTAL EVIDENCE	64	100%	6	100%
	TOTAL THREAD WITH EVIDENCE	62	-	5	-
Firm	4.1 Reward	4	2%	1	3%
	4.2 Participatory Leadership **	144	84%	33	89%
	4.3 Transparency **	23	13%	3	8%
	TOTAL EVIDENCE	171	100%	37	100%
	TOTAL THREAD WITH EVIDENCE	117	-	29	-

* new theme

** new enabler under the theme

A number of new categories and one theme of enablers were also discovered (please see Table 5.4 for the new theme and Table 5.5 for new categories). The new theme, called 1.4 Flexibility, is under Technology. Flexibility is the ability to activate and de-activate features in a platform. Three categories are classified under this new theme. First, the Facebook platform in this study allows the community to activate and de-activate the 'comment' feature. For example, the turn on and off comment feature makes "the fight" more pleasant. Second, it also allows individual participants to select the privacy level of communication (e.g. post through private messages or on members' Facebook walls). It gives individual members and the firm a wider range of choices in communicating with one another. Third, the administrator of the community is allowed to set the privilege of their members. In Abekani, this feature is used to play challenges. In some challenges, a member is given a temporary administrator privilege to manage a challenge.

A new category called Completeness related to 2.3 Content Quality under Social is found. Completeness refers to the detailed information of bags that they are going to sell or barter. Content Quality refers to the balance between personal opinion and factual information. Mostly it is mentioned in studies in the health area for communities of interest. The findings have shown that it is also important for Abekani and Berliano, in particular if it is related to buy, sell, and barter transactions. They need a complete and detailed description of bags that are sold or bartered in one thread.

Next, the two new categories were unveiled under Firm, 4.2 Participatory Leadership: Sharing Task and Equal Partnership. Participatory leadership is conducted by leveraging the power of community members to produce benefits for all other members. The SLR findings have revealed that this relates to sharing decisions and opinions freely. We found two additional ways through which Abekani has exercised their Participatory Leadership. First, is an Equal Partnership between Abekani and the community members as Abekani explicitly states that the firm sees itself in an equal position with individual participants and that the firm and individual members grow together. Second, is the Sharing Task of managing the online community. The firm allows its members to filter and nominate new members, control the distribution of Abekani bags, and monitor the process of bag orders.

The last new category is Business Transparency under Firm, 4.3 Transparency. Previous papers relate Transparency theme with idea generation in innovation. Abekani demonstrated not only transparency in the process of idea generation, but also transparency in its business practices such as their suppliers, workforce behind the bag production, financial reports, and problems that they had to face in their daily activities to produce bags. This may or may not be directly related to the idea generation but the transparency made individual participants enjoy the firm as part of themselves. While financial reports did not make its members develop more ideas for this community, the amount of revenue and tax announced by the sponsoring firm gave its members more reasons to stay participating which also may increase the chance for them to share ideas. Members of the community enjoyed being part of the growth of this small medium enterprise. Abekani also shared their suppliers, workforces, hard work, and challenges that they had. Knowing the challenges faced by the firm, such as the number of skilled employees and the availability of raw materials, has given the members more understanding of flaws and imperfection of the firm.

In addition to that, this study also generated word clouds from the two online communities (Figure 5.4). The word cloud shows the occurrence of words in the text. The bigger the word is, the higher the occurrence percentage is. Abekani text concentrates on: bag, the owner, area group, friends, the fight and community. On the other hand, Berliano text disperses across various words. The focus of the

words is Berliano. No other words that follow Berliano are popular enough to stand out. That Abekani produced more similar words can be interpreted as a stronger similarity in Abekani. This may also be interpreted as a stronger sense of community because they used similar language.



Figure 5.4 Abekani and Berliano word clouds

Table 5.5 shows the example excerpts of each enabler found in online texts. The table is divided into four sections representing the actors (Social, Firm, Participants, and Technology). The asterisk sign (*) is used to identify a new category found based on findings in online texts. The table below is the short version. Appendix II exhibits the full version of the table.

Table 5.5 Example of evidence for enablers found in Abekani and Berliano online texts

Enabler	Category	Abekani	Berliano
Firm			
Participatory Leadership	Share decision making	<i>"all rules in this community come from members"</i>	<i>"Dear beloveds, I am sorry I have to post this thread. As a response to your concern, we would like to confirm that you may send orders to more than two bag sales."</i>
	Activity Development	<i>"Challenge day. We want to know what your husband's reply is if you ask him to buy you Abekani bags. The winner will get a free bag."</i>	<i>"Guess what models are these? The winner will get a surprise (picture of 3 Berliano bags)"</i>
	Sharing tasks *	<i>"We are not going to interfere with the collective bag order"</i>	Not found

Enabler	Category	Abekani	Berliano
		<i>process. It is fully coordinators' responsibility to manage and arrange the collective bag order."</i>	
	Formal and Informal Communication	<i>"love you too mak Jawir" (note: mak jawir is the participant nickname. In Indonesia, we call a person by nickname to show our close relationship with them. This is also a sign of informal communication)</i>	<i>"Good evening beautiful ladies, I am sorry to disturb your night rest. I am writing this to remind you all that the order bag group are only for members who have to confirm their orders. Please be cooperative." (note: the firm choose "please" by using the word "Njih" which is a formal word to say "please".)</i>
	Equal Partnership *	<i>"From now on, please don't call me the owner of this bag, because to me, you are all the owners of this brand" (note: you refer to individual participants).</i>	Not found
Transparency	Business Transparency *	<i>"Dear Abekanian Lovers, we proudly announce you that we have already paid your tax to the government for this month (June), 10%, idr. 118,139,405"</i>	Not found
	Outcome Transparency	<i>"The winners of bag competition are: NISCALA by ... SUMI by"</i>	<i>"The winner of the photo competition will be announced next week."</i>
	Customer Role Transparency	<i>"Cover design contest: 6. one member may submit more than one designs 7.the winner is selected based on members' vote"</i>	<i>"Please help us to find traditional Indonesian patterns to be applied to our leather"</i>
	Process Transparency	<i>"Niscala model (the winner of bag competition) is still under revision. We are waiting for the designer to confirm our sample. You can order this bag this year (2018), soon after we finish the revision."</i>	Not found
Reward system	Monetary Reward	<i>"The winner will get free Cbag Mini Kulo Non Flap."</i>	<i>"Guess what models are these? (picture of 3 Berliano bags). The winner will get a surprise gift "</i>
Individual			
Motivation	Benefits	<i>"I love your bag"</i>	<i>"I love your bag"</i>
	Commitment	<i>"we will continue to keep this group until we old."</i>	<i>"We always wait for your products."</i>
Personal attributes			

Enabler	Category	Abekani	Berliano
Personal evaluation	Previous Experience	<i>"Different from other bags which we can buy easily, to own Abekani bags (we need) physical works, brain works (and also) money. Even though we have those things, still they don't guarantee you to own the bag. wkwkwkwkw (laugh). It is a mystery. This process is super fun."</i>	<i>"I love this admin than others."</i>
Social			
Sense of Community	Obligation to Community	<i>"This quiz is for members who were born at 28 October"</i>	<i>"I think current rules are acceptable and fair enough. Please don't make things difficult for the firm. Let them concentrate on the production."</i>
	Community Identity	<i>"My first bag from a fairy godmother. My beloved bag"</i>	<i>"your days with Berliano: Monday is wish list day, Tuesday is barter day..."</i>
	Social Bonds	<i>"We are more than bag lovers; we are sisters."</i>	Not found
Similarity	Shared Interest	<i>"We come together because we love bags."</i>	<i>"that is so pretty. That is in my wish list."</i>
Equality	Perceived of Fairness	<i>"I would like to apologize for my mistake that I've done in the last order. I have discussed this with the owner of Abekani, and together we have decided that 3047 participants who suffer from my mistake are allowed to be included into pre-order safine 2018."</i>	<i>".... I think current rules are acceptable and fair enough."</i>
Content Quality	Completeness *	<i>"Ask for detail information about the sale bag to avoid disappointment. Please be true about your bag condition. Don't hide important information."</i>	Not found
Trust	Integrity Trust	<i>"I believe in fairy godmothers, she will sell their bags with an affordable price based on our rules"</i>	<i>"as members, we only have to follow the rules"</i>
	Benevolence Trust	<i>"I trust the owner, she must select the best option for us"</i>	<i>"Let Berliano make this community better"</i>
Technology			
Association	Interpersonal Relationship	Add friend feature: <i>"please add me."</i>	Add friend feature: <i>"please add me."</i>

Enabler	Category	Abekani	Berliano
		Join group feature: <i>"Who wants to join Abekanian Jabar Bersatu (AJB) please comment."</i>	Join group feature: <i>"you need to join the group to pay the bag."</i>
	Association between Individuals and Content	The poster name is displayed and can be seen by others	The poster name is displayed and can be seen by others
Interactivity	Social Translucent	Post a thread/comment (all of these examples are threads or comments)	Post a thread/comment (all of these examples are threads or comments)
	Interactive Feature	Polling such as: <i>"We need your help to decide for other five designs. Please vote which design you would like us to produce."</i>	The Polling feature is not used in Berliano
		Mention feature	Mention feature
		Live recording <i>"It felt like I was there although I only saw from the live recording. Hopefully, I can join other offline meetings in the future"</i>	No live recording feature used in Berliano
Persistence	Accessibility	Facebook mostly can be accessed	Facebook mostly can be accessed
	Consistent Presentation	Files, Posts kept have persistent presentation	Files, Posts kept have persistent presentation
Visibility	Information Center	Organized photo albums	Organized photo albums
		Updated timeline by adding comments	Updated timeline by adding comments
	Rating System	Rating system to vote in the challenges	Rating system to vote in challenges
	Searching Tool	Hashtag and topic feature	Hashtag and topic feature
Flexibility *	Turn Feature On and Off*	Turn on and off comments <i>"I am going to turn off comments for this thread because today is the time (the fight time)"</i>	Turn on and off comments * <i>"I am going to turn off this thread"</i>
	Mode of privileges *	<i>"We allow one coordinator to be an administrator for one day to manage orders."</i>	Not found
	Privacy Level *	Personal chat <i>"if you find members who sell their bag above the original price, please let us know by personal chat."</i>	Personal chat <i>"Hi, can I see the joveline (a bag model)? I have sidomulyo (a bag model), Please send me a personal message."</i>

* new theme/category

5.3.2 Constraints in Sponsored Online Communities from Individual Participant Perspective

This section elaborates on findings related to constraints of value co-creation in sponsored firms for answering SRQ3, “*what are the constraints in the community?*”. Figure 5.5 shows the distribution of content analysis evidence for the constraints. As this figure shows, constraints found in Berliano are dominated by Firm. On the other hand, no evidence was found in regard to Firm related constraints for Abekani. Rather, evidence was found in relation to Technology, Social, and Individual.

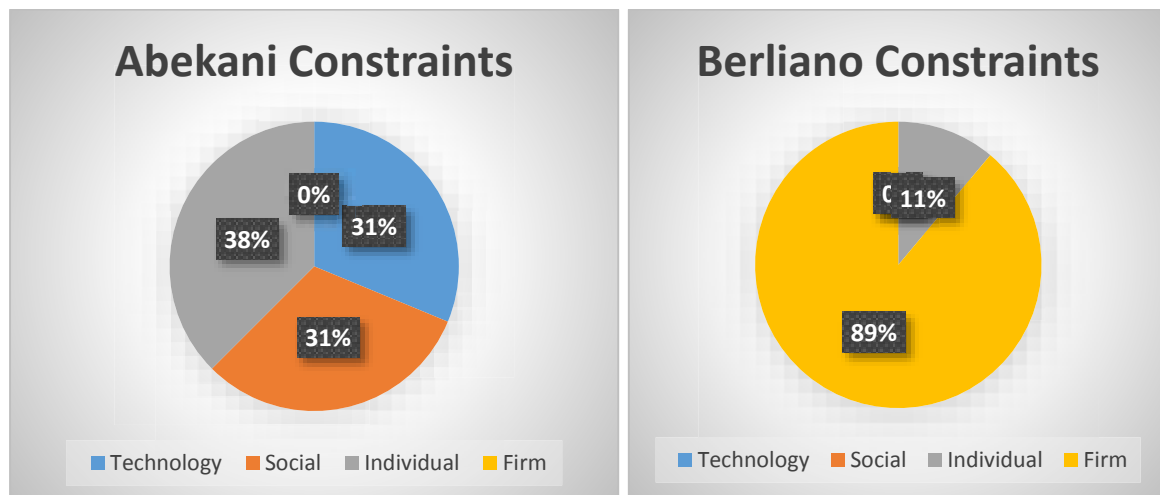


Figure 5.5 Distribution of content analysis evidence for constraints in Abekani and Berliano

Details of each constraint are summarized in Table 5.6 and the examples of excerpts are provided in Table 5.7. While previously this study discovered evidence for 15 themes of enablers, I found evidence for only seven constraints as the result of this analysis. Out of these seven constraints, three different constraints were found for each community, while Personal Attributes is the only common constraint found in both Abekani and Berliano.

Under Technology, this study located evidence for two constraints which are explained as follows:

- In regard to Association, the platform allows only a limited number of friendship associations to be established between members. Abekani has more than 20,000 members and encourages friendships among its members. The friendships in the online community encourage their members to connect with others as a friend on Facebook platform. Yet, Facebook only allows a maximum of 5,000 friends. This was not a problem in Berliano, given the lower number of members and less focus on encouraging members to become a friend to other members.
- In relation to Visibility, members complain about the low searchability. Threads in Facebook could not be categorized unless they used a hashtag (#). Different individuals used a different hashtag. Some others also used hashtags not to categorize their posts, but to make their texts

look nicer or express their feelings. Another way to search for something is to use Facebook searching feature which offers limited options to search threads with particular keywords. Some members said that they could not find relevant threads and even their posts in the online community. This was not found to be a problem in Berliano because the traffic of interactions in Berliano is not as high as Abekani and Berliano does not have many variations of events.

For Social, this study found evidence for Hierarchical Relationship which is explained as follows:

- The next constraint in Social is Hierarchical Relationship which occurs in Abekani. Some texts showed members' feeling about other members who had a chance to be an area coordinator. They thought that area coordinators had the power to choose who would get Abekani bags first. Some others also showed their jealousy to other members who had many Abekani bags. Becoming junior members also inhibited them from expressing their feelings and ideas freely.

Constraints under Firm were sourced from the Berliano community which is explained as follows:

- The first constraint is the Low Participatory Leadership that comes from Low Activity Development. The firm seemed to monitor all threads and made warnings if the thread violated the schedule. That this is annoying was confirmed through interviews. Too much control reduced the joyfulness of the community and inhibited members from having various activities.
- The next constraint is Low Transparency in the procedure of handling private questions from members which created conflicts. The conflicts particularly are sourced from the relationships between individual participants and the sponsoring firm. There was one thread made by an individual participant to encourage others to obey Berliano rules and remind others that there was nothing perfect including Berliano. However, this thread received various replies. Some members supported this; some others spoke about their unpleasant experiences with the sponsoring firm in the community. For people who had unpleasant experiences, it was difficult to agree with the main post in the thread. These people complained about the firm representatives who ignore their personal messages asking about processes in Berliano. They said that they asked questions nicely and thought that it was their right to have answers. Other members said that the sponsoring firm would not do that if their behavior was respectful. The firm representatives also joined the discourse showing gratitude to members who stood with them. Various expressions came with no conclusion. The firm representatives insisted that it was not their fault; some members helped them to defend their arguments, some others were on the other side. The thread was closed to avoid further conflicts by the poster, but it made

some people reluctant to have further interactions in the community unless to own Berliano bags (which was clarified through interviews).

The last constraint found under Personal Attributes is Lack of Knowledge and Skills. One example of the low skills are difficulties in using smartphones to get updates from Facebook that are discussed in Abekani. Another example that occurs in both online communities is the need to have an easy to be answered question for “the fight”. This constraint and other constraints under Firm are not surprising because intuitively we consider constraints as the nonexistence of enablers.

Table 5.6 Constraints in Berliano and Abekani

Actor	Theme of Constraint	Evidence in Abekani		Evidence in Berliano	
		Number of threads	in %	Number of threads	in %
Technology	Association*	1	6%	0	0%
	Visibility*	4	25%	0	0%
Social	Social Hierarchy*	5	31%	0	0%
Individual	Personal Attributes	6	38%	1	11%
Firm	Participatory Leadership	0	0%	3	33%
	Transparency*	0	0%	5	55%

* new constraint

Another interesting finding is that an enabler of a community may become a constraint, or vice versa, in different situations. An example is the auto-updated timeline feature (Visibility). Facebook sorts threads on the timeline based on the latest activities. The thread with the latest activities will be displayed on the top. On “the fight” day (Friday), everyone only wants to see posts made by the sponsoring firm. If a member posts something or makes comments, the thread where they put comments will appear first and other members might miss the chance to see the sponsoring firm’s post. On the other hand, if a constraint is properly handled it can turn into an enabler. For example, for some of older members (age > 50 years) in Abekani, winning “the fight” is almost impossible. To address this, Abekani created a special group and made different challenges for them to own Abekani bags. This solution developed a stronger sense of community amongst these members and was very appreciated by them. Further implications of this finding are discussed in Chapter 6.

Table 5.7 Example of evidence for constraints found in Abekani and Berliano online texts

Theme of constraint	Category	Example of excerpt	Found in (✓ = found, X = not found)	
			Abekani	Berliano
Participatory Leadership	Low Activity Development	“today is not a barter day, please stick to the schedule!”, Firm	X	✓

Theme of constraint	Category	Example of excerpt	Found in (✓ = found, X = not found)	
			Abekani	Berliano
Transparency	Low process Transparency *	"what had happened? Why did the admin block me? What mistakes that I had done?", an individual participant "If we block you it means that you bother us. Think about it", Firm reply	X	✓
Association	Limited Interpersonal Relationship *	"my friend quota is full, can I ask your favor to invite new members?", Firm	v	X
Visibility	Limited Searching Tool Ability *	"I have already submitted a comment, but I could not find it."	✓	X
	Inappropriate Information Center *	"I remind you, this is Friday, stop postings and comments. You may make us miss the post from the firm"	✓	X
Social Hierarchy *	Social Hierarchy *	"what can we do, our relationship is hierarchical"	✓	X
Personal attributes	Lack of Knowledge and Skills	"Please don't ask a difficult question just to order a bag."	✓	✓

* new constraint

5.3.3 How is Value Co-Created

This section presents evidence for and further explores the two roles of the sponsoring firm in shaping value co-creation in response to SRQ4 (“*how value is co-created?*”). The two roles are firm as a facilitator, and firm as a co-creator. As a facilitator, the firm provides individual participants with essential resources they need for value co-creation (e.g. goods, services, information, or other resources) without directly interacting with individuals (Grönroos 2008). The firm’s role as a facilitator was captured through analyzing threads that were produced by individual participants, and not as a response to the firm. Evidence for the firm as a co-creator was captured through threads that were (i) initiated by the firm, in which the firm invited individuals to do something (e.g. complete their orders), (ii) made by individual participants as a response to the firm’s earlier calls or posts.

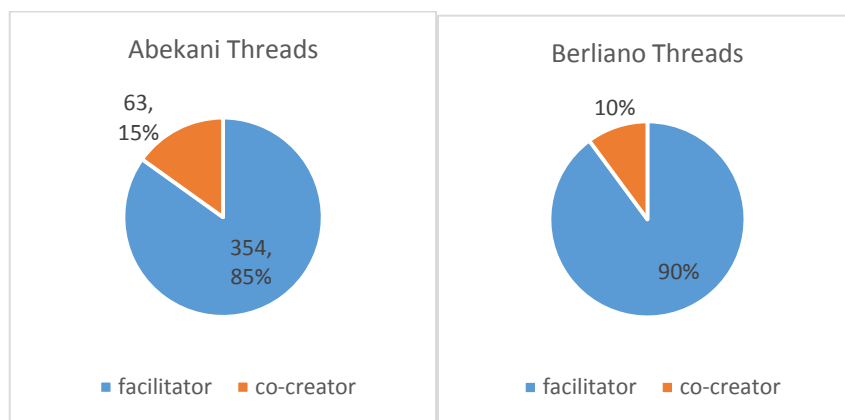


Figure 5.6 Distribution of firm roles in Abekani and Berliano

Figure 5.6 illustrates the distribution of threads found in each online community and aggregated findings for firm roles. As this figure shows, the firm role in both communities is dominated by the facilitator role. Evidence gathered from above 350 threads out of 417 threads in Abekani were classified under the firm’s role as a facilitator. Similarly, the majority of evidence found in Berliano (above 140 threads out of 155 threads) were related to the firm’s role as a facilitator. Evidence for the co-creation is less than or equal to 15% in both communities.

These findings highlight how active individual participants are in these online communities. Findings also reveal that while the firms in both communities directly engaged in value co-creation, they have not dominated the discussions.

Firm as a Co-Creator

Figure 5.7 shows the distribution of events for the firm’s role as a co-creator. An event is something that happens which is observable and experienced by individual participants in online communities. One thread is considered as one event. These events were grouped into four groups based on their

similarity in activities: Product & Service Co-Design, Orders & Payments, Playful Activity, and Complementary Activity (information and knowledge sharing). The majority group of events falls under Complementary Activity (54% for Abekani and 69% for Berliano). Abekani has more events in Product & Service Co-Design and Orders & Payments. Table 5.8 exhibits an example for each event.

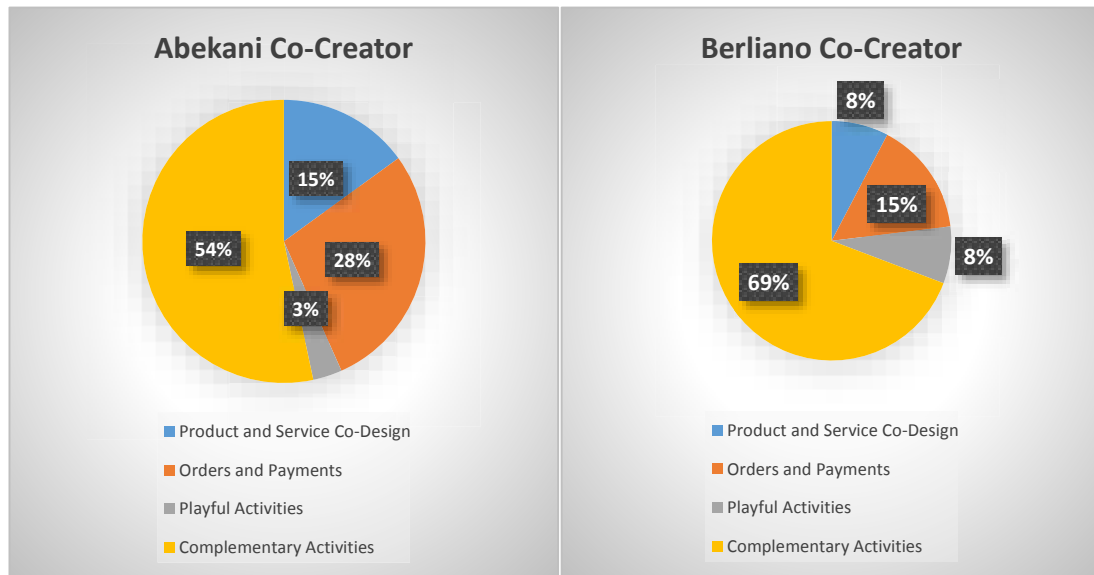


Figure 5.7 Graphics of Abekani and Berliano downloaded co-creator threads

Those groups of events are explained as follows:

- Product & Service Co-Design is firm's invitations for the community member to participate in product and service design. While the majority of the firm's invitations came with prize offers for participants (e.g. in bag design competition), there were instances that members' participation was not incentivized by any prize. For example, one thread was about the new member registration, in which Abekani asked its members what the firm should do if a new person wanted to be an Abekani member. This thread received a lot of comments and discussions. After a decision was made, the firm turned off the comment feature so that no comments could be made after that. This was a sign that no further discussion was needed. This process produced a process of new member acceptance that was appreciated by its current participants.
- The second group of activities is Orders and Payments. All events in this group are related to bag orders and payments which are self-completed by individual participants. Members who had already ordered the bags should actively monitor the progress of their orders, decide when they want to receive the bag, and join another online group to finalize the payment and monitor the delivery. Product & Service Co-Design and Orders and Payments are typical of co-

creation activities and have been discussed in previous literature (Piller, Vossen & Ihl 2011; Prahalad & Ramaswamy 2002; Vargo & Lusch 2016).

- The third group of events is Playful Activities. These events are intended for individual member’s amusement and seem to have no direct relation with production or daily process in the online community - for example, text challenge in Abekani. The firm challenged its member to ask their husband to buy them Abekani bag via SMS and shared their husbands’ replies. The most favorite replies would get a door prize. Another example is a game asking bag design names posted by Berliano.
- The last group is Complementary Activities which includes information and knowledge sharing to aid the co-creation process such as announcements about the progress of customers’ bag orders or internal condition of the sponsoring firm such as tax and income.

Below is the example of events found in the online communities and the description for each event (Table 5.8).

Table 5.8 Example of co-creator events found in Abekani and Berliano online texts

Co-Creator Events	Example of Event in Abekani	Example of Event in Berliano
Product and Service Co-Design	Bag design competition	Berliano invites their members to share ideas about what traditional pattern that they would like to be made
Orders and Payments	Individual participants area actively involved in the bag order process. Participants monitor who is not allowed to buy bags. The winner of “the fight” actively joint group to pay and to confirm their orders.	
Playful Activities	Text challenge. The firm invited its members to ask their husband to buy them Abekani bag via SMS. The best reply got gifts.	Photo competition. The firm invited its member to share their photo with Berliano during to celebrate Indonesia Independence day.
Complementary Activities	Firm announced its tax, " <i>Dear Abekanian Lovers, we proudly announce you that we have already paid your tax to the government for this month (June), 10%, idr. 118,139,405</i> "	Firm announced the progress of some bag orders. " <i>dear Berliano lovers, this is the updated progress of your order.</i> "

Firm as a Facilitator

Figure 5.8 shows events emerge when the firm acts as a facilitator in both communities. The events were grouped based on the similarity of the underlying discussions as per Table 1.9: 1) Ideas and Reviews, 2) Interpersonal Relationship, 3) Knowledge Sharing, 4) Sell, Buy, & Barter, 5) Self-disclosure, and 6) Business Opportunity.

The majority of events in Berliano was dominated by Sell, Buy, & Barter. While in Abekani, events were distributed almost equally to Ideas & Reviews, Interpersonal Relationship, Self-disclosure, and Sell, Buy, & Barter. These findings reveal that while both sponsoring firms facilitate similar activities, Abekani produces more dynamic activities.

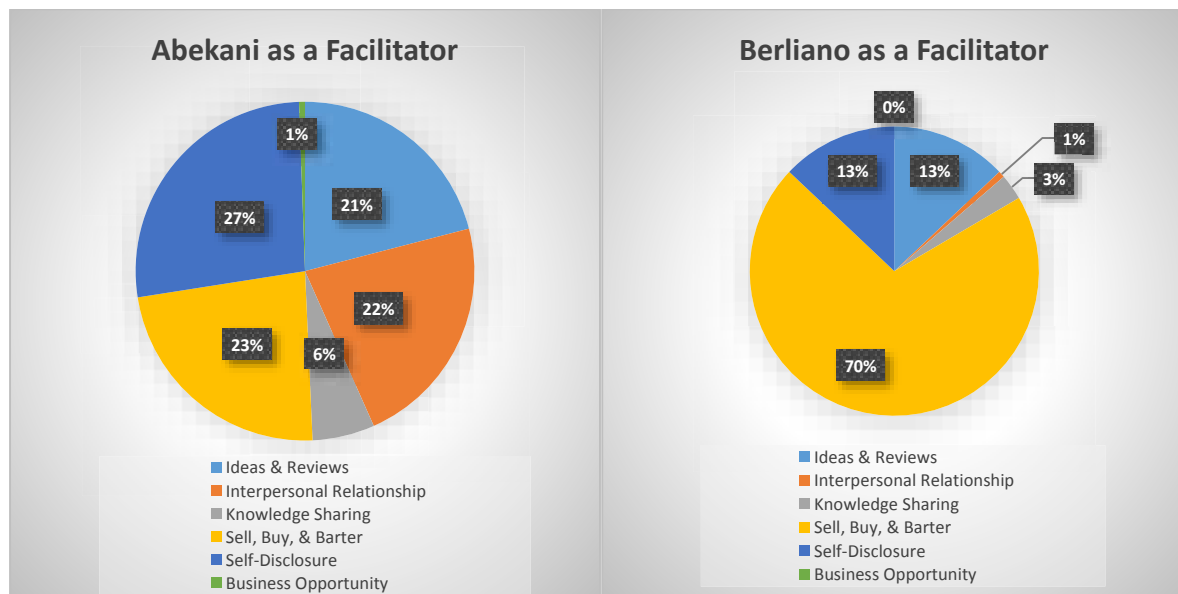


Figure 5.8 Graphics of Abekani and Berliano downloaded facilitator threads

Below is a description of each event:

- **Sell, Buy, & Barter**
This includes threads related to members' interest to buy, sell, or exchange their bags.
- **Self-disclosure**
It reflects members' personal stories about themselves, their experience, daily activities, and their bag collection. Self-disclosure is attractive for other members to read, and at the same time gives the posters a space for themselves to get attention from others. Most of the Self-Disclosure events received positive comments. Results from interviews (Subsection 5.4.1.1) can further elaborate interest in self-disclosure; for instance, it shows that showing off personal collections in the community may make members famous or encourage others to develop a relationship with them. Abekani shows more activities in this group because members of Abekani want to make friendships through the online community. This also can be seen through their famous tag, "from bags to a family".
- **Interpersonal Relationship**
This is related to relationships between individual participants. This event includes Games between Participants, Person to Person Relationship, Offline Meetings, Area Group Online Activities, Congratulation for others, and Charity. Abekani shows high activities in this

category with 79 out of 350 events under this category. On the other hand, there is only one thread classified under this category for Berliano. This aligns with the Abekani tag, “from bags to a family” that shows one of their main activities in the community is making friendship relationship with other members.

- Ideas & Reviews

This includes Product Ideas, Non-Product Ideas, Product & Service Reviews, and Complaints. Above 50% of Ideas and Reviews are about Product & Service Reviews in Abekani and Berliano. The reviews include personal experiences when individual participants have experiences with Abekani or Berliano products or services.

- Knowledge Sharing

Threads with Information that have no relation with personal or firm are categorized under knowledge sharing. This may include tips to maintain leather products, reminders about rules of the community, and questions about events in the community. Not many threads were found under this category.

- Business Opportunity

Besides those events, two events related to business opportunity were found in Abekani and no events found in Berliano. Events within this are related to the opportunity to expand personal business belonging to individual participants in the online community. Although not many threads were found, this group of events is made because Business Opportunity is considered important for Abekani. Abekani dedicates one day in a week for business activities between members. In that day, members are allowed to sell products outside Abekani.

- Results from interviews also show that Business Opportunity is an attractive activity in Abekani, but they said that most of them offer products or services during their offline meetings outside the online communities. Subsection 5.4 provides more information related to the interview findings.

Table 5.9 provides examples of events found in the online communities and the description for each event.

Table 5.9 Example of facilitator events found in Abekani and Berliano online texts

Facilitator Events	Abekani	Berliano
Ideas and Reviews	<i>“Pouch M is wide enough to carry a lot of stuff.”</i>	<i>“Havana sidomukti is very pretty.”</i> Havana sidomukti = a bag model
Interpersonal Relationships	<i>“our offline meeting was so fun.”</i>	<i>“thanks for a friend in a Jogja for the bag; you are my fairy.”</i>

Facilitator Events	Abekani	Berliano
Knowledge Sharing	<i>"I wonder, how many colors have been produced for Lumongga?"</i> Lumongga = a bag model	<i>"could you please share how to buy Berliano bags?"</i>
Sell, Buy, Barter	<i>"can I barter a good condition of BP-005 with rencue or lumongga?"</i> BP-005, rencue, lumongga = bag models	<i>"can I barter green cartera with black cartera?"</i> Cartera = a bag model
Self-Disclosure	<i>"this beautiful pinky bag is traveling to Pule "</i> *pule = a place	<i>"my beautiful Cardera bag."</i>
Business Opportunity	<i>"Dear friends, ready long strap, brand Aldo. Please text or WhatsApp me if interested"</i>	Not found

5.3.4 Summary of Content Analysis Findings and Contributions

This section has examined the online text of Abekani and Berliano for enablers and constraints of value co-creation, and how value is co-created in sponsored communities of interest. Threads were selected through two methods: 1) based on selected keywords, 2) random observation. 572 threads were downloaded to be analyzed.

Sixteen themes of enablers have been found with one new theme under Technology has been revealed. New categories have also been found under three themes: Participatory Leadership, Content Quality, and Transparency. These new categories expand our understanding of what we have already known from the previous paper (SLR). A total of seven constraints have been found with five of them being new constraints. Activities in firm roles as a co-creator and a facilitator have been reported. Six groups of events in a firm as a facilitator are Sell Buy & Barter, Knowledge Sharing, Interpersonal Relationship, Ideas and Reviews, Self-Disclosure, and Business Opportunity. Four groups of events in the firm as a co-creator are Playful Activities, Product and Service Co-Design, Orders and Payments, and Complementary Activities.

The findings reveal that during the value co-creation process, individual participants in Abekani and Berliano dominate the discussion in the community. Technology is the dominant enabler in both communities. While Abekani and Berliano share a lot in common, such as the similar market, similar products, almost similar regular schedule, Berliano shows less evidence in social, individual, and firm enablers comparing to Abekani. Berliano also shows more evidence in constraints. Both Abekani and Berliano have similar groups of activities when the firm becomes a co-creator or a facilitator. However, Abekani members produce more dynamic activities. The events are distributed more equally in Abekani rather than in Berliano.

This section has resulted in four major contributions:

- (i) The first contribution of this section is the discovery of enablers and constraints which is developed based on empirical evidence.
- (ii) The second contribution revealed groups of events to co-create value. This finding is a part of efforts to explain how value is co-created in communities of interest.
- (iii) The third contribution of this section expands our previous understanding of enablers obtained from the SLR and reveals the dynamic nature of enablers and constraints in sponsored communities of interest. This dynamic nature shows that some other constraints may act as enablers or vice versa in different situations. An example of this is the auto-update timeline feature (Visibility). On “the fight” day (Friday), everyone only wants to see posts made by the sponsoring firm. If a member posts something or makes comments, the thread where

they put comments will appear first, and other members might miss the chance to see the sponsoring firm's post. Finally, if some constraints are handled properly, they can result in activation of enablers. For example, for some of the older members (age > 50 years) in Abekani winning "the fight" is almost impossible. To address this, Abekani created a special group and made different challenges for them to own Abekani bags. This solution developed a stronger sense of community amongst these members and was very much appreciated by them.

- (iv) The fourth contribution is that the findings have uncovered an additional focus of value co-creation which in SLR is dominated by the direct focus on the idea generation. New categories in three themes of enablers (Participatory Leadership, Content Quality, and Transparency) demonstrate that efforts to attract participation may be made in various areas which may not be directly related to the idea generation. For example, Transparency does not only include transparency in the idea generation process but also in the process business such as financial reports, internal processes, and lines of the supply chain. Findings also have shown the Participatory Leadership covers sharing tasks in managing online communities and an equal partnership. The proportion of various activities in the online communities also reveals that idea generation does not dominate activities in communities of interest.

The differences between Abekani and Berliano can be explained as follows. First, Berliano activities are dominated by one category of events: Buy, Sell, & Barter; on the other hand, Abekani has more variety in groups of events, such as Interpersonal Relationship and Self Disclosure (please see subsection 5.3.3). Those events help members to know each other better and develop relationships. Therefore, interviewees are able to sense social enabler more in Abekani rather than in Berliano. Second, the variety of perceived benefits make individual participants experience different things. For example, members of Berliano think that the community offers them bags at affordable prices. Therefore, Firm related enabler in Berliano detected by interviewees is limited to how to own bags. Berliano members also see Technology differently. For example, although Abekani and Berliano run on the same platform, for Berliano members, Association, particularly to develop interpersonal relationships, is not considered a capability in the online community that enables or constrains them to participate in the online community.

Table 5.10 Summary of enablers in Abekani and Berliano based on interviews

Theme of Enabler	Category	Abekani	Berliano
Firm			
Participatory Leadership	Share decision making	<i>"(the firm) just follows what we want"</i>	<i>Not found</i>
	Activity Development	<i>"we have various games"</i>	<i>Not found</i>
	Sharing tasks **	<i>"our member acceptance process, new members should be selected by us first before accepted by the firm"</i>	<i>"some people want (the fight) to be fair... they check it carefully and report the mistakes to the firm"</i>
	Formal and Informal Communication	<i>if we buy a product and the owner treats us nicely, who will not be happy?</i>	<i>Not found</i>
	Equal Partnership **	<i>She is just the same as us, the member of this community</i>	<i>Not found</i>
Transparency	Process Transparency	<i>"The order lists are accessible, we cannot lie"</i>	<i>"some people want (the fight) to be fair... they corrected the mistakes"</i>
Individual Participant			
Motivation	Benefits	<i>"From Abekani, I got more friends, a family"</i>	<i>"we know more about batik, Indonesian traditional art"</i>
	Expectation	<i>"I joined this community because I wanted to have Abekani bags"</i>	<i>"We like the bags"</i>
	Commitment	<i>"(it) is a professional job, to take care of people, I should make them stay"</i>	<i>Not found</i>

Theme of Enabler	Category	Abekani	Berliano
		<i>together, comfortable with the community</i>	
Personal attributes	Current skills and Knowledge	<i>"You have to know the system... you have to know the skill to win 'the fight'"</i>	<i>Not found</i>
Personal evaluation	Affective Evaluation	<i>"Here, a simple conversation can be so fun. I like it a lot"</i>	<i>Not found</i>
	Value Equity	<i>"the benefits outweigh the sacrifices, the difficulties and the emotional draining"</i>	<i>"Now, I just joint for 'the fight'. I only select some 'fight' depending on whether I like the bag or not"</i>
	Experience	<i>"After some complaints, they change the system. The system is better now than before"</i>	<i>Not found</i>
Social			
Sense of Community	Obligation to Community	<i>"(we) check this together, maybe there is a mistake or what, maybe there was a double order, there were a lot of us did that"</i>	<i>Not found</i>
	Community Identity	<i>"In Abekani, we have a lot of fairy god mother"</i>	<i>"we can say fairy godmother"</i>
	Social Bonds	<i>"We do not only talk about bags, but we also become closer. Sometimes we send foods to each other, we do meet up too"</i>	<i>"Sometimes, if we have a good friend in the community, she gives her bag to us"</i>
Similarity	Shared Interest	<i>"we do not know each other, but if we see others who bring Abekani bags, we always say hi and get excited"</i>	<i>Not found</i>
	Members' Commonality	<i>"when we met (face to face) and worked together, it felt like we had known for years and were very close"</i>	<i>Not found</i>
Equality	Perceived of Fairness	<i>"the rule is fair, it was made to make sure that everyone gets an equal opportunity to own the bag"</i>	<i>"some people want (the fight) to be fair... they corrected the mistakes"</i>
	Norm of Reciprocity	<i>"There are times some members offer their bags for us to try. I do the same. I want them to try my bags too"</i>	<i>Not found</i>

Theme of Enabler	Category	Abekani	Berliano
Content Quality	Usefulness of Information	<i>"Sometimes we need information about anything outside bags, this community will help me"</i>	<i>Not found</i>
	A balance between Personal and Facts	<i>"If we have an opinion not the valid one, or if our opinion will confuse others, it is better to stay silent. Otherwise, it may bring bad consequences rather than good things"</i>	<i>Not found</i>
Trust	Integrity Trust	<i>"everyone obeys our rules"</i>	<i>Not found</i>
Social Hierarchy *	Social Hierarchy *	<i>"I think area coordinators are very important"</i>	<i>Not found</i>
Technology			
Association	Interpersonal Relationship	<i>"from that (joining the group), we could 'request friend' to people in the group"</i> <i>"we have a WA group"</i>	<i>Not found</i>
	Association between Individual and Content	<i>"They (mark up resellers) posted pictures, usually we could identify the bag from their posts"</i>	<i>Not found</i>
Interactivity	Interactive Feature	<i>"we free to post problems, then others will reply"</i>	<i>"from 'the fight', we got bags"</i>
Persistency	Consistent Presentation	<i>"Order list, they shared the order list"</i>	<i>"The fight system, now they use Google form"</i>
Visibility	Information Center	<i>"The notification directly appears on our mobile phones"</i>	<i>Not found</i>
	Rating System	<i>"bag design with the highest vote will be selected"</i>	<i>Not found</i>
	Searching Tool	<i>"I am able to identify who is active, who is just a silent reader"</i>	<i>Not found</i>
Flexibility **	Turn on and off feature **	<i>"Tunjung posted an order thread, after 1 minute then she turned off the comment so that she could stop the comments"</i>	<i>Not found</i>
	Privacy Level **	<i>"I like to send private messages"</i>	<i>"Then we would communicate via private messages"</i>

* new theme/category

** new theme/category that is also found in content analysis

The following section elaborates on findings in more details for each community. For each community, the interview findings are structured per actor and enabler theme.

5.4.1.1 Abekani

a. Individual Participant

Interviews have resulted in finding evidence for all enabler themes that were previously identified in Chapter Four/SLR for Individual Participant. Most notably, amongst other themes, Motivation is the one that is mentioned more frequently by the interviewees.

Motivation

Most of Abekani members were women coming from various age ranges. The main reason they joined Abekani was because of the bags. Abekani only sold its bags in the online community. They could buy second hand Abekani bags from other markets (outside the online community), but the price was always higher than the original price.

*“I joined this community because I wanted to have Abekani bags”, interviewee B.A
“(Outside the online community) they sell this bag higher than the original price.
For example, the original price is IDR 300,000 (approximately 300 AUD), outside,
the price could reach up to millions”, Interviewee C.A*

The number of members of this community reached over 20,000 individual participants. However, the firm only produced not more than 100 bags a week. There were members who had no Abekani bags at all. Not to mention that there were members who bought the bags for personal collection. The demand for the bags was very high. This made the individual participants join “the fight” (rebutan) to get a bag. They frequently said “fight” to express the struggle to get the bag. It was called “a fight” because they had to compete with thousands of other members to order a bag which was sold only less than 100 items/week.

*“Abekani is a small home industry, so they can’t produce massal items, so when they can’t produce bags as many as the demands, we should fight to own a bag”, interviewee H.A
“It is very difficult to own the Abekani bag”, Interviewee C.A*

As part of Abekani routine schedule, each Friday the firm sold bags. Thousands of individual participants will be online at that time to place their order. As a result, it took only minutes for the bags to be sold.

*“In one minute, the buyer reached thousands”, Interviewee H.A
“.. it felt like we were in a war ...”, Interviewee E.A*

“The fight” was so competitive that it often makes their members upset when they failed and overjoyed when they won. All the members mentioned the emotional feeling (baper) because of the fight.

“one of the most memorable memory was the emotional feeling because I could not have the bags. One year attempt with no results”, interviewee B.A

“The fight is extremely difficult....There are members who have been here for one year, and they still don’t get the bags”, Interviewee G.A

Abekani had area group communities that can be enjoyed by online members or anyone who wants to have Abekani bags. The area groups were divided based on the area. These area groups had their own activities which were arranged independently from Abekani.

All of the interviewees are members of these area groups. One of the reasons why they wanted to join the area group is because it helped them to own a bag. The bag was not a new bag, but for them, it was good enough rather than waiting for months. Usually, the senior members of the area group sold their bags in their offline meetings. The price was always the same as the original price or lower depending on the bag condition.

“Then I tried to join the area group. Usually once in a month they had a meeting. We could meet a lot of people at the meeting. At first, I did not own Abekani bags at all. In that group there were bag lotteries. Everyone who came to the meeting could get an Abekani bag if we won the lottery”, Interviewee A.A

Over time, these women developed deeper relationships. They started to get to know each other. They came to the scheduled offline meetings regularly to enjoy the friendships. Bags then were not the main focus of them. Even, one of the members stated that it was a loss if she did not join the area group because of so much joy offered in area groups.

“At first I wanted to have various models of bags, I wanted that, this... then lately, I want to make friendship more than own the bags”, Interviewee A.A

“So, we do not only talk about bags, that makes this fun... at first, of course the bag is the center of our discussion because we are here because of bags, however when we meet, we also discuss other things”, Interviewee G.A

“Varied discussions from A to Z, from leather to kids, even snacks, everything... so it was fun”, Interviewee J.A

“From Abekani, I got more friends, a family, here, Cibodung had a lot of members, there were 50-70 people coming in each meeting, we help each other, support each other”, Interviewee J.A

“I could get the bag from ‘the fight’, I don’t need them to give me bags, but I thought it would be such a loss if I did not join the area group. We don’t just spend money for fun. It is a social community that helps others, we do charity too”, Interviewee F.A

For participants, the processes in the community (the friendship and “the fight” to order the bags) were fun. To some extent, “the fight” and the friendships were addictive. Most of them confessed that it was very difficult to ignore the order day (on Friday). Some of them still made attempts to order although they did not need the bag. For these interviewees, they usually gave their slot to other members who need it more. Some others closely examined the results even though they did not join the fight to find whether their friends were lucky enough to place their bag orders.

“Before I knew Abekani, I only needed one bag and I used that until I could no longer use it. After I knew Abekani, suddenly I got addicted and I became a bag collector. May be because of the competition, it makes me want the bag more and more....”, Interviewee I.A

“adrenaline test”, Interviewee H.A

“I like the fight. I usually joined the fight not because of the bag, I gave the bag to my friend”, interviewee C.A

“I joined the fight to give the bag to my another friend”, interviewee F.A

The friendships made the community like a single family. Most of the interviewees described their relationships with others as sisterhood.

“Thanks to God, up to know, we, 17 people, are still together ... I feel like I have a new family here”, Interviewee H.A

Other individual participants took further commitment by voluntarily managing their area community. Examples of area groups are Cibodung, West Java, and East Java. They gave their dedication to the community by considering their activities as part of their professional commitment even though they did not receive any monetary fees for their commitment.

“They did it voluntarily, this is for everyone who wants it and has the capacity to do it”, Interviewee I.A

“our coordinator, she could remember what bags that I would like to have”, Interviewee I.A

“I think becoming an area coordinator is a professional job to take care of people, I should make them stay together and comfortable with the community”, Interviewee K.A

Personal Attributes

Technological Skills and Knowledge are also mentioned by interviewees as one important skill in enjoying the community, particularly in winning “the fight”. Some members mentioned special preparation that they did before joining “the fight”. A member said that she had to spare one hour to prepare everything. Another member said that she prepared herself to win

“the fight” days before “the fight” with other friends. The preparation focused on upgrading their current knowledge about Abekani and current issues in Indonesia. They hoped to answer “the fight” question fast and correct to win the bag. They call this preparation as “learning class”.

“You have to know the system... you have to know the skill to win ‘the fight’”, Interviewee F.A

“We call it ‘learning class’ before examination”, Interviewee A.A

Evaluation toward Community

Three types of evaluations were made by interviewees. The first evaluation is related to the benefits that they got during their participation. The second evaluation is related to the feeling that they got from the community. The last evaluation is related to the better experiences that they get from Abekani. The interviewees believed that Abekani keeps on changing itself and continuously improving to satisfy members’ needs. For example, Abekani revised their rules and practices if they found current practices produced dissatisfaction.

“from bags to sisterhoods...the benefits outweigh the sacrifices, the difficulties, and the emotional draining”, Interviewee B.A

“here, a simple conversation can be so fun. I like it a lot”, Interviewee A.A

“After some complaints, they change the system. The system is better now than before”, Interviewee B.A

b. Firm

Two themes of enablers related to the sponsoring firm were supported by interviewees’ experience. One very strong theme of enablers that can be interpreted from all interviewees is Participatory Leadership. Similar to the content analysis, I found a new category under transparency called Policy Transparency. While the content analysis findings show that Abekani provided various rewards for many kinds of events, interviewees did not emphasize the Reward System. After carefully listening to stories told by interviewees, I found that for them the reward was not that important. Rather, the friendship they made with others was one of the dominant reasons they participated in Abekani. This made them like to tell the stories of friendships between them and the firm rather than the rewards.

Participatory Leadership

Abekani showed strong participatory leadership by its ability to listen and change its processes based on members’ suggestions. Interviewees said that Abekani always improved their process to satisfy members’ needs.

“The owner, Tunjung, listens to complaints”, Interviewee I.A

“Then finally they fixed the system, they changed the system”, Interviewee B.A

“(we) gave recommendations to Tunjung. For example, at first, Abekani logo was not attractive, the bag was heavy, the leather bag was heavy. The leather was thick and heavy. Then we told her about it. Now Abekani bag is so much better”, Interview M.A

Abekani actively encourages individual members’ participation by developing formal and informal communication with their participants. All of the interviewees said that the firm (the owner: Tunjung Abekani) was a friendly and approachable person. Even one of the interviewees described the owner as a person who cared more for the members than the business.

“She (Tunjung) is an approachable person, she welcomes everyone, for example, I am not a famous figure in Abekani, but when I contacted her, her responses were nice. So... no words can describe, if we buy a product and the owner treats us nicely, who will not be happy?”, Interview H.A

“I think the owner understands us, she feels us, she is different from other business owners who think that our relationships are just for profit”, Interview F.A

Abekani encouraged participation in management by demonstrating equal position between the firm and individual participants in the community. Rather than showing its authority by making decisions by itself or showing its power in the community, the firm showed that members were equally important and had a habit of following what their individual participants wanted. One of the interviewees described the firm as a member of this community. Another interviewee said that the firm had an empathy to their members.

“(Tunjung) just follows what we want. She would not go anywhere, just like a chick to its mother. She is just the same like us, the member of this community. She does not act as if she were a president commanding us to do things”, Interviewee F.A

“Tunjung acts empathically to members, sometimes she says ‘please sharing’. That is an empathy”, Interview M.A

Transparency

The firm developed a transparent process so that its individual participants could control the process in the online community. One of the examples of its transparency was the open process order. All the participants who ordered the bags were listed in a public file so that other members were able to see. This was important for other individual participants to control the processes. For example, they know from the list who got two bags in 8 weeks which is a violation of Abekani rules.

“The order lists are accesible, we cannot lie. Abekani is very transparent. We cannot manipulate the process”, Interview F.A

c. Social

Interviews resulted in evidence for all six themes of enablers related to Social. One theme that all interviewees mentioned frequently was the Sense of Community. All interviewees provided a clear evidence of the existence of the Sense of Community. One new theme was found, which is called Social Hierarchy.

Sense of Community

Over time, a social bond was developed between participants and the firm. The reason they gathered together was beyond bags. They gathered together because they developed friendships and they got to know each other.

“We do not only talk about bags, but we also become closer. Sometimes we send foods to each other, meet up”, Interviewee M.A

They developed community identity. First, they had vocabularies made by them: fairy godmother, and markup resellers (markupers). Second, they also shared how they viewed the Abekani bag. The bag was seen as a charm that had a strong personal connection with the owner; the bag was also seen as something that had its own destiny. Third, they see their relationships in Abekani as a sisterhood relationship coming from one family, Abekani.

These individual participants worked together to control the process in the community. One of the processes was to check the double orders made by other individual participants. They also shared information regarding their bag orders.

“(we) check this together, maybe there is a mistake or what, maybe there was a double order, there were a lot of us did that”, Interviewee G.A

“we shared information with others who also order the bag, how far the process progress is”, Interviewee C.A

Area groups needed a voluntary coordinator to coordinate members in area events. One of the events in the area was a local meet up. These individual participants worked together to prepare local meet ups. During preparation, they shared responsibilities and tasks.

“at least we do (a meeting) once in two months”, Interviewee K.A

“It took a lot of effort to conduct a meet up. Thank God, they did not mind. Some friends helped to coordinate the meet up, some others helped to prepare games, they worked hard to find prizes”, Interviewee D.A

Some people who had willingly become coordinator lead the group by making sure all their members had Abekani bags. They screened new members who had no Abekani bags and found ways to give them the opportunity to have the bags.

“we got offers, like do you want this bag?”, Interviewee C.A

Similarity

The intense events in Abekani brought reasons for its members to get closer. They shared similarities, not only the passion for bags but also the closeness because they felt like they were close friends from one community.

“we do not know each other, but if we see others who bring Abekani bags, we always say hi and get excited”, Interviewee D.A

“when we met (face to face) and worked together, it felt like we had known for years and were very close”, Interviewee D.A

“For example, We know that she likes cooking, then we asked her to teach us.. or... another example, we could share about kids if they were sick, we shared similar things”, Interviewee G.A

Content Quality

Interviews supported the importance of Content Quality in the community. First, a careful selection to share information and opinion is necessary to make the community comfortable for everyone. One interviewee, who is an area coordinator, said that sharing too much opinion may bring disadvantage for themselves and make others feel uncomfortable. Second, with regard to the usefulness of the information, many interviewees admitted that they received a lot of useful information from the community. The information is not limited to bags, but also about things in their daily life such as kids. This useful information makes them want to participate more in the community.

“Sometimes we need information about anything outside bags, this community will help me”, Interviewee I.A

“If we have an opinion not the valid one, or if our opinion will confuse others, it is better to stay silent. Otherwise, it may bring bad consequences rather than good things”, Interviewee K.A

Trust

Findings supported the importance of trust for interviewees. They had trust in the firm, that the firm had a good intention for them and picked the best solution for all members. They also believed that others would follow the rules.

“This community is comfortable because everyone obeys our rules”, Interviewee G.A

“We do all our best to obey the rule. Once we break the rule, the firm will not hesitate to cancel our membership”, Interviewee F.A

Social Hierarchy

As the community was growing, local area groups were growing. These local area groups were important elements of Abekani and are mentioned by most of its members (Figure 5.9). Each local area has one leader called the area coordinator. The firm was aware of area coordinators and was happy to liaise with them on matters that were important to members.

Area coordinators are different from the sponsoring firm. They are selected by members for members. Area coordinators are in charge of managing their local area groups. Most interviewees agree that the local area group makes the online community group more enjoyable. They know others better and find it is fun just to see their friends from the same local group post threads in the community.

“I am a silent reader. I enjoy seeing others from my area group, oh... she is doing this... she is doing that...that is fun”, Interviewee C.A

The high traffic communication in the community was difficult to follow. Area coordinators helped their members to stay informed with important information. For example, they contacted each participant if their ordered bags are ready for pick up. The sponsoring firm announces the information in the online community, but some participants may miss it.

“when a bag is ready to be picked up, area coordinator informs each of us”, Interviewee I.A

Area coordinators also managed offline activities in the community. They coordinated offline meetings, communicated with others about what types of bags that their members’ want, and provided inputs to the sponsoring firm based on their members’ suggestions.

“I think area coordinators are very important, most of Abekani activities are coming from their ideas”, Interviewee F.A

To make sure the management of area coordinator was fair, the coordinators were changed.

“Just like here, we had changed the coordinator three times within three years, no four times. So the coordinator was not always the same person”, Interviewee I.A

Equality

These individual participants tried to maintain fairness in their community by establishing rules. For example, they had bag lotteries and they also had embargo rules. If members bought/got one Abekani bag, they could not order another bag within 8 weeks.

“fairness. So for example, bag issues in the community, we solved this by doing bag lotteries”, Interviewee C.A

“So, that is the rule actually the rule is fair, it was made to make sure that everyone gets an equal opportunity to own the bag”, Interviewee H.A

While some of the interviewees said that the social hierarchy in local groups was not comfortable for them, they agreed that they needed coordinators to manage the group and to make sure everything was fair for all members.

“area coordinators help to minimize unfairness in the community”, Interviewee K.A

They also mentioned take and give attitude in the community. For example, when they need to know about a particular bag, others will help them. Some members give information, some others lent their bags to be used for a while. As a return, they do the same thing. They called this attitude as “sharing”.

“there are times some members offer their bags for us to try. I do the same. I want them to try my bags too”, Interviewee K.A

d. Technology

The findings in this section show how interviewees implicitly or explicitly described their understanding of technology features to support their activities in the online community.

Visibility

The notification feature was important especially on the order day. When a post was made, the individual participants received a notification so that they would not miss the order time.

“The notification directly appears on our mobile phones”, Interviewee I.A

Another advantage of the notification feature is to identify markup resellers. Becoming markup resellers was one of the biggest sins in Abekani. The notification features available in the platform (such as searching and notification tools) notifies them if their friends post a thread. Through this, they are able to identify people who sell Abekani bags with the price higher than the original price.

“They (markup resellers) posted pictures, usually we could identify the bag from their posts”, Interviewee C.A

Persistency

To control order and challenge processes in Abekani, the persistency of sharing data was essential. Using the sharing data, other individual participants helped the sponsoring firm to identify people who broke the rules or notified others if mistakes occur.

“Order list, they shared the order list and requested us to check it”, Interviewee G.A

Interactivity

The features offered by Facebook allowed all individual participants in the online community to join a discussion. The interactive features such as posting comments and threads, enabled individuals to share their thoughts, problems, and ideas. In addition to that, it helped them to have a meaningful discussion. For example, if people posted a problem, other individual participants could help them to solve the problem by sending comments.

“Sometimes, for example some people complained about a problem. Others would help to answer or clarify the problems. It is most likely to happen. They (other members) always respond to our questions”, Interviewee A.A

Association

Once an individual participant joined the group, they would be able to see other individual participants. Usually, they made friendships with some other members of the community.

“from that (joining the group), we could use request friend feature to be a friend of people in the group, then we got online friends, then we got real friends from Abekani”, Interviewee C.A

They also used another application, called Whatsapp, to develop closer relationships. When their relationship was very close, Facebook was no longer enough. They liked to use Whatsapp to aid their interactions. Whatsapp made contacting others easier. Whatsapp is a mobile based application that connects with others through their phone numbers. For them, the Whatsapp makes the conversation easier because it is simpler. The basic features are only sending and receiving texts. The notification is also straight forward, there is only one notification, when a text or call comes.

“we have a Whatsapp group”, interviewee C.A

“The notification directly appears on our mobile phones”, Interviewee I.A

Association may also relate to the poster and the piece of information. For example, interviewees can identify the poster of a picture of a bag.

“They (markup resellers) posted pictures, usually we could identify the bag from their posts”, Interviewee C.A

Flexibility

The flexibility to choose communication mode between individual participants gave them the ability to start a friendship with others. For example, the personal messaging feature allowed individual participants to have private conversations. Over time, continuous conversations developed stronger relationships.

“I like to send private messages, introducing myself, my name is this.. here and there, I am a new member of Abekani. Do you have this type of Abekani bags? If you want to sell this, please let me know. Then we talked about others too, like how many kids they have, hobbies, then we became friends”, Interviewee G.A

Another flexibility highly used in Abekani was the turn on/off comments. If the message was turned off, then no one could add more comments. This feature was mostly used in two situations. The first situation was in the fight or discussion threads. The turned off comment showed that decisions had been made. In the fight, it meant that the winner had been selected. The second situation was to calm down a conflict that may occur in the discussion (in a thread).

“Tunjung posted an order thread, after 1 minute then she turned off the comment so that she could stop the comments”, Interviewee H.A

“When a discussion in a thread brings conflicts, they turn off the comment so that no further conflicts are developed. It was solved personally via personal messages”, Interviewee H.A

5.4.1.2 Berliano

a. Individual Participants

For this actor, interviews resulted in evidence for two themes out of three themes of enablers: Motivation and Evaluation toward Community.

Motivation

Similar to Abekani, Berliano members are women. The main reason they joined the online community was to buy the bag at affordable prices. Berliano was the only embossed leather bag in traditional Indonesian patterns (Batik). Outside this community, the bags were sold twice or higher than the original price.

“We like the bags”, Interviewee K.B

Some of the interviewees said that their main focus was to get the bag. All the interviewees agreed that the bag was the highest motivation for them to join the online community. Some other interviewees said that their relationships with other members could grow into friendships. However, they still said that the friendships were not as attractive as the bags.

“We can get bags and to have bags we need friends. For example, if somebody posted a wish to own a bag. Then we had the bag, we could contact her to offer our bag. Then we could be friends, although that is not necessary depending on various things.”, Interviewee F.B

“Berliano activity is only ‘the fight’ to order the bag, they never organize any offline meet up”, Interviewee F.B

Evaluation toward Community

Although most of the interviewees said that the firm has more constraints than enablers, they were still following this community because this was the only place that offered them new Berliano bags at an affordable price. Berliano does not sell their bags outside the online community and most of Berliano secondhand bags are sold higher than the original price.

“Now, I just joint for ‘the fight’. I only select some ‘fight’ depending on whether I like the bag or not”, Interviewee D.B

a. Firm

It is challenging to elaborate findings for enablers without including the constraints, as the interviewees talked more about constraints coming from this firm. Most of them were only interested in process of having Berliano bags because what they need was just bags, so they did not really place attention on the firm service other than services related to owning bags. One enabler that they mentioned was “the fight” process. The fight process was transparent and closely monitored by other members. This enabler can be classified under Transparency theme and also Participatory Leadership in particular related to Share Decision Making.

“The fight system, now they use Google form, previously they used the Facebook comment feature”, interviewee E.B

“some people want (the fight) to be fair... they check it carefully and report mistakes to the firm”, Interviewee A.B

b. Social

Given that most of the interviewees’ main purpose was to buy bags, not many stories about the social aspects were disclosed. I could only retrieve evidence for Sense of Community and Equality which are elaborated as follows.

Sense of Community

Some people shared a social bond so that they helped each other to get the bags. They also adopted vocabularies and rules from Abekani, such as: fairy godmother, the fight (to order), the embargo, and markup resellers.

“Sometimes, if we have a good friend in the community, she gives her order to us”, Interviewee D.B

“we can say fairy godmother, but if she sold with a triple price higher than the original, then she is not a fairy godmother”, Interviewee D

Equality

Some interviewees exposed efforts made by the community to maintain equality which was related to “the fight”. “The fight” results were listed in a list called bag order list. The bag order list was carefully checked by individual participants. When mistakes were made, the participants would announce the mistake in the community to get confirmation from other individual participants and the sponsoring firm. A correction would be made accordingly.

“some people want (the fight) to be fair... they corrected the mistakes”, Interviewee A.B

c. Technology

Abekani and Berliano used the same platform, Facebook. However, over time, Abekani individual participants showed more variation in using technology than Berliano. The biggest reason people joined Berliano was to get a bag. Therefore, their main focus of technology was related to their efforts to get the bag from bartering or buying bags in the online community. As a result, Association and Visibility did not receive enough attention from interviewees. Their stories of interaction with the technology were dominated by their individual efforts to own the bag.

Interactivity

The interactivity feature provided by Facebook enabled all individual participants in the online community to join a discussion. The feature enabled them to order bags or to share their wish to have a bag.

“the fight, we got bags”, Interviewee F.B

Flexibility

The flexibility to choose communication mode between individual participants gave Berliano members the possibility to know each other in a more private environment. For example, the personal message features gave a private area for individual participants to start a conversation. They also used personal messages to sell Berliano bags. Most Berliano members did not publish the price of bags that they were going to sell.

“say hi via personal message feature”, Interviewee I.

“(they offer bags) through personal messages, the price is higher than the original price”, Interviewee D.B

“Then we would communicate via private messages”, Interviewee F.B

Persistency

A similar process to order bags was adopted from Abekani. For example, Berliano used Google form to record orders. The persistency of file made by Google form helped them to resume orders, very similar to Abekani.

“The fight system, now they use Google form, previously they used the Facebook comment feature”, interviewee E.B

5.4.2 Constraints in Firm-Sponsored Online Communities

This section presents findings from interviews to answer SRQ3, “*what are the constraints in the community?*”. Table 5.11 summarizes constraints found from both online communities. Results led to finding evidence for eight themes of constraints. Furthermore, interviews led to the discovery of seven new themes, three of which have also been found in content analysis. In general, the number of constraints found in Berliano was higher than Abekani; members of Abekani disclosed three themes of constraints while members of Berliano reported seven themes of constraints. All constraints found under Individual and Firm was reported by Berliano members. Both communities had their members reporting constraints under Technology and Social.

Table 5.11 Constraints Abekani vs Berliano (findings from interview)

Theme of Constraint	Category	Abekani	Berliano
Individual			
Personal Evaluation *	Affective evaluation	Not found	<i>“Get bored, I am easy to get bored”</i>
	Previous Experience	Not found	<i>“(In Berliano) I am allowed to put my wish list only on the comment section. How can others see this? I don’t understand... in Abekani, we can create a thread to list our wish.”</i>
Firm			
Participatory Leadership	Low Share Decision Making	Not found	<i>“The rules are too strict... Too much control”</i>
Transparency **	Low Process Transparency	Not found	<i>“While others were allowed to post their pictures, I was warned because I posted my picture on this group. When I complained to the administrator, asking why you warned me while you did not warn others ... up to now, I received no clear answer and my chat was blocked by the administrator”</i>
Social			
Low Sense of Community *	Low Social Bond	Not found	<i>“well, it feels like buyer and seller relationships ... so, I sense gaps in our relationships”</i>
Social Hierarchy **	Social Hierarchy **	<i>“it feels like there is a social gap for newbies, members who do not have Abekani bags”</i>	Not found

Theme of Constraint	Category	Abekani	Berliano
Trust	Integrity Trust	<i>"The rules are too detailed"</i>	Not found
Technology			
Visibility **	Inappropriate Information Center **	<i>"Notification to inform the latest updated thread was not always wanted, particularly during the fight"</i>	Not found
	Searching tool **	Not found	<i>"how can people notice it if we put this in comments. How can they see it"</i>
Privacy *	Privacy *	Not found	<i>"put names on your online pictures so that no one could steal it. There were irresponsible people out there"</i>

* new constraint

** new constraint that is also found in online text

Similar to the content analysis results, an enabler of a community may become a constraint. For example, Social Hierarchy in Abekani reflects coordinators' help for establishing rules. However, for some people, this also became a constraint because it created a hierarchy in which people felt detached from each other. Another example is the updated Facebook timeline which was avoided during "the fight".

The details of constraints in each online community are explained below.

5.4.2.1 Constraints in Abekani

a. Social

Social Hierarchy

Owning bags was very important in Abekani. The limited numbers of production made the second-hand bags also valuable. People with more bags were more known by others, who would encourage other individual participants to get close to them to get the bags. Having more bags also gave them a chance to be a fairy godmother.

"it feels like there is a social gap for newbies, members who do not have abekani bags", Interviewee D.A

"I want your bag, next time if you want to sell this, don't forget me. Hahahahaha. That how I requested a bag, sometimes I did more than just begging, even more", Interviewee G.A

"Everyone who wants Abekani bags would try to get close to others who have the bags", Interviewee C.A

Another reason that created Social Hierarchy was *the area group*. As explained earlier in the content analysis findings, area groups needed a coordinator to run them. The coordinator had more power to communicate with the owner. Coordinators also had the power to select which members' needs should be accommodated. Thus, the Social Hierarchy can become an enabler and a constraint in the community.

"we knew a person more if this person contributed to our activities. We would prioritize these people rather than the silent readers because of their contribution", Interviewee K.A (an area coordinator).

"If I want to order, I have to order through area coordinator", interviewee B.A

"sometimes my friends complained ... about some area coordinators are grumpy or making things complicated ... tapi, for me as an abekani member, joining area coordinator makes things easier", Interviewee I.A

Trust

Another uncomfortable situation occurred when Abekani accepted new members. The new members were usually unfamiliar with the rules in Abekani. Sometimes, they broke the rules, which distracted other members. This made other members apply social pressure to new members by giving harsh comments to them on the online platform (or what they called "bullying") if a new member broke a rule.

"Comments from others if somebody breaks a rule could be so cruel", Interviewee F.A

b. Technology

Visibility

The Auto-Updated Timeline feature to improve visibility is not always needed. Facebook timeline is updated based on recent updates made by participants. For the majority of Abekani members, this feature was annoying during the fight to get bags. Therefore, they developed a rule not to do any activity before the fight on Friday. However, new members were not always aware of these rules. There were times that they liked or commented on a thread on Friday exactly before the fight which meant the fight thread could not be seen by other members.

"if we click 'like button' in an older post, then the post would re-appear on the top list of the time line. So when it happened at the same time with the fight, this old post would appear on the top of the fight thread.", Interviewee A.A

5.4.2.2 Constraints in Berliano

a. Individual participant

Personal Evaluation

Five participants out of eleven said that “the fight” in Berliano was boring. Although the fight was meant to be fun, if they could not get the bag for a period of time, the fight was no longer fun.

“In Berliano, the fight is monotonous”, interviewee D.B

“Over time, the fight becomes boring because no bags I can get”, Interviewee H.B

“Get bored, I am easy to get bored”, interviewee B.B

Abekani was the first online community selling bags sponsored by a firm in Indonesia. Berliano copied Abekani and most of Berliano members were also Abekani members. Most of the interviewees reflected on their previous experience when they were a member of Abekani. They compared Berliano with Abekani and they preferred Abekani more than Berliano.

“(In Berliano) I am allowed to put my wish list only on the comment section. How can others see this? I don’t understand... in Abekani, we can create a thread to list our wish.”, Interviewee E.B

b. Firm

Participatory Leadership

Berliano tried to imitate Abekani by copying most of Abekani rules. However, these rules still did not satisfy their members. Most of the interviewees said that they did not understand the rules, some others also said that Berliano did not listen to what they needed. The firm was identified as showing over-control and did not give their members adequate freedom to initiate threads in the online community.

“too many complicated rules from the administrator, that is what I thought, that is my personal opinion because these rules inhibit me from participating...Rules at the beginning are important, but don’t give us complex and difficult to be understood rules”, interviewee E.B

“Berliano is not as vibrant as Abekani. The rules are too strict... sometimes, the administrator gave warnings to posters if they post a thread with a topic outside the scheduled theme. Too much control, we can’t do much, it is boring”, Interviewee F.B

“I could not remember when we could post our pictures”, Interviewee B.B

“Berliano owner is a man, he does not understand what women want”,
Interviewee G.B

Next, interviewees evaluated the firm from the tone of language to respond to members’ complaints or comments. Interviewees thought that the way they responded to comments was rude.

“I had terrible arguments with the administrator. I would like to make this short, maybe because the administrator was too tired. She had to take care of 7000 or thousands almost 10.000. Maybe it was me the one who should just accept what it was. I had to understand that she could be tired, servicing a lot of people one by one. That was one of my worst experience”, Interviewee D.B

Transparency

Another category that emerged from the interview results is low Process Transparency. Berliano created its community to help customers order bags. However, different interviewees had different opinions regarding the process to order bags. Some interviewees found the process confusing to them and not transparent. For example, they thought the fight was the only way to get new Berliano bags. However, later they found that other people who did not join the fight could manage to buy a bag. They wondered, where these people got Berliano bags. Another example was mentioned by another interviewee was the cancellation of the order process with no clear reason.

“Well, people started to question things, especially the bag order system. How can these people get the bag without doing the fight?,” Interviewee E.B

“I don’t understand, my order was almost final. Then, suddenly, it was cancelled without any clear information, they said it was because they could not accept personal orders. But my order was before that new rules”,
Interviewee G.B

Another example of low Process Transparency is related to the ruling establishment. The first example is about warnings that were given only to some wrongdoers. For example, one individual participant said that she got a warning because of posting a bag picture in the community. She said, she saw others did the same things, but they got no warning from the administrator. When she asked for clarification for the warning, she found that her chat was blocked by the sponsoring firm.

“While others were allowed to post their pictures, I was warned because I posted my picture on this group. When I complained to the administrator, asking why you warned me while you did not warn others ... up to know, I received no clear answer and my chat was blocked by the administrator”,
Interviewee D.B

The second example is related to markup resellers. One of the ways to maintain the price as is was to establish a penalty for markup resellers. However, the sponsoring firm response was not clear. Rumors about some memberships being cancelled concerned interviewees, yet it was not clear how the rumors were created and whether they were valid. These rumours and unclear responses about penalties caused unclear situations of how to react to markup resellers. Some interviewees said it was all right to markup price, some others said it was against the rules.

“There were two people, that was the rumour said, I don’t know whether it is real or not ... personally, I think it is up to the seller to set the price. But, it could be considered unethic or ethic not really sure”, Interviewee F.B

“In Berliano, markup price is not allowed”, Interviewee K.B

“In Berliano, markup price is allowed, it is up to bag owners”, Interviewee C.B

c. Social

Sense of Community

Although its members said that they enjoyed “the fight”, their relationships with others in the community were limited to buying and selling. Some of them got online friends, but the connection was not well developed.

“well, it feels like buyer and seller relationships ... so, I sense gaps in our relationships”, Interviewee G.B

d. Technology

Visibility

There was a problem of visibility in Facebook that inhibited the user from finding information in comments. While the information was easier to find if it was put on the main post, finding information in comments was very challenging. This problem was also found in the content analysis of online discussions.

“(In Berliano) I am allowed to put my wish list only on the comment section. What is this, I don’t understand... in Abekani, we can create a thread to list our wish. Meeh, how can people notice it if we put this in comments. How can they see it.” Interviewee E.B

Privacy

One of the problems mentioned by an interviewee was the privacy problem. For them, sharing pictures of bags could be dangerous. Other irresponsible members who they did not know well could steal the picture and became fake Berliano resellers

outside the community. Therefore, the interviewees suggested sharing bag pictures with the owner's online name on top of the picture.

“put names on your online pictures so that no one could steal it. There were irresponsible people out there” Interviewee C.B

5.4.3 How is Value Co-Created

This section presents findings to answer SRQ4, “How is value co-created”. The interviewees described what the community did to develop a conducive situation to participate in value co-creation. Two themes emerged from the interviews as well as from the content analysis (as summarized in Table 1.15). The first theme is the role of the firm. As a facilitator, the sponsoring firm allows its member to interact by giving tools such as the platform itself. As a co-creator, the sponsoring firm is actively involved in the interaction by giving comments, decisions, clarifications, etc.

The second theme is the fluidity. Fluidity is the dynamic configuration of organizational structures. This means in online communities, rules, participants, and interactions continually and constantly change over time. The first category in this theme is Consensus Making. During Consensus Making, rules and decisions are collectively made together. This mechanism is the tendency of the sponsoring firm and individual participants to engage in the creation of common meanings and shared understanding. Consensus Making emerges from the interactions of the sponsoring firm and individual participants. The second category is Consensus Settlement. This response is made by members of online communities that keep fluid participants informed of the state of the knowledge. This includes not only repetitive reminders and discussions but also actions to participants who disobey the consensus. The last category is Changing Boundary. Along with Consensus Making, this means the continuous action to make consensus and the establishment of the consensus making changes in the Social, Technology, and Individual Participant. These three categories gradually change the online community. Technology changes are related to the combination of technologies that the online community used and how the community collectively understands the technology features, while social changes are related to the social arrangement of the community. Table 5.12 describes themes, categories, and codes found from interviews, and the following sections outline how value is co-created in Abekani and Berliano.

Table 5.12 Themes of Value Co-Creation from Interviews and Example of Excerpt from Abekani and Berliano

Theme	Category	Code	Abekani	Berliano
Firm roles	As a co-creator	Playful Activities	<i>"Challenges, sometimes they give us gifts from challenges. For example, a photo challenge."</i>	Not found
		Product and Service Co-Design	<i>"Abekani wanted to produce bags. Then they asked us to design bags, then they would choose 10 bags. Then other members joined a polling to decide which bags that they wanted Abekani to make"</i>	<i>"(the reason joining the community is) to own Berliano bags, we can not get the products if we don't join the community"</i>
		Orders and Payments	<i>"Usually they sell their bag online on Friday, they announced it (one day before), tomorrow we will sell this model for how many"</i>	<i>"the fight' order process is vary depending on the type of order that they open"</i>
		Complementary Activities	<i>"The biggest Abekani met up was in October 2017, the preparation started from... I think in July, they announced us about it. The open the registration from July to September"</i>	<i>"Friday review. Saturday is the day when the firm informs us about the progress of order processes"</i>
	As a facilitator	Sell, buy, Barter	<i>"On Wednesday, we can barter our bags"</i>	<i>"If we get a bag that we don't like, we can re-sell it"</i>
		Self Disclosure	<i>"Thursday is a day when we show off our bags"</i>	<i>"The day for the personal purpose is Wednesday. Sometimes we posted our bags. Then people would send us personal messages whether they liked the bag or they wanted to buy the bag, or just make friends. Well, that is fun"</i>
		Knowledge sharing	<i>"so, we do not only talk about bags, but we also discuss fashion, dresses, work"</i>	<i>"Thursday is the day to share knowledge"</i>
		Interpersonal relationships	<i>"I enjoy this community, some friends have that personality, this personality... it is fun"</i>	Not found
		Ideas and reviews	<i>"Some members post a thread asking when they will have a meeting. They miss the meeting already. Others will</i>	Not found

Theme	Category	Code	Abekani	Berliano
			<i>comment on the thread. Based on that we know how enthusiast they are"</i>	
		Business opportunity	<i>"It has a lot of members. Some sell bag charms, some others buy"</i>	Not found
Fluidity	Consensus Making	Order process	<i>"after several complaints, they change their order system"</i>	Not found
		Member acceptance	<i>"the latest rule for a new member to be accepted is attending our offline meetings"</i>	Not found
		Markup resellers	<i>"They sell their Abekani bags far above the original price. That is unethical. Our latest rule says that the markup reseller membership should be cancelled"</i>	Not found
	Consensus Settlement	Reminder to others	<i>"So this lady used all ways, respectful or not, to collect Abekani bags. That kind of attitude needs to be warned"</i>	<i>"The administrator gave warnings to posters if they post a thread with a topic outside the scheduled theme."</i>
		Collaboration to establish rules	<i>"So, who have just bought this bag? Oh only 20 people. Then, we asked them to send us their recent bag pictures. Then we can identify (the markup resellers)"</i>	Not found
	Changing Boundaries	Technology Change	<i>"we created Whatsapp group, when we have Whatsapp group, it means that we want to have more personal relationships"</i>	<i>"The fight system,now they use Google form after the comment"</i>
		Social Change	<i>"It is a social event that helps others, we do charity too"</i>	<i>"well, it feels like buyer and seller relationships ... so, I sense gaps in our relationships"</i>
		Individual Participant Change	<i>"At first I wanted to have various models of bags, I wanted that, this... then lately, I want to make friendship more than own the bags"</i>	<i>"Get bored, I am easy to get bored"</i>

5.4.3.1 Value Co-Creation in Abekani

1. Firm as a co-creator and a facilitator

All groups of events found in the content analysis were also reported by interviewees. These events are Playful Activities, Product and Service Co-Design, Orders and Payments, and Complementary Activities under firm as a co-creator role. Six events under firm as a facilitator are Sell, Buy, & Barter, Self Disclosure, Knowledge Sharing, Interpersonal Relationships, Ideas & Reviews, and Business Opportunity.

2. Consensus Making

Over time, rules to manage the online community were developed. The rules were collectively made together between members and the firm. Examples of the output of Consensus Making are an agreement on rules related to order process, member acceptance process, and markup resellers. For example, one of interviewees described the consensus making related to order rules. The interviewee said that at first, there were no embargo rules at the end of 2016 or early 2017. Then the rules were updated to accommodate individual participants' needs.

"Then, the embargo. I think it was in the end of 2016 or early of 2017. Before that, the fight was unscheduled. Now, it is scheduled. So, I think Abekani keeps on updating its rules to accommodate our needs" Interviewee G.A

3. Consensus Settlement

For all interviewees, maintaining the community staying comfortable was important. Comfortable means that the community stays attractive and inviting. To maintain this, interviewees revealed Consensus Settlement. One rule frequently mentioned by all interviewees was about markup resellers. Markup Resellers are people who sell Abekani bags above the original prices (please refer to the key terms section in the Introduction). No markup was allowed in Abekani. One example of rule establishments was the area coordinator's assertive action to the members who violate the rules (markup resellers). Another rule establishment was individual participants' collaboration to find markup resellers.

"So these people used all ways, respectful or not, to collect Abekani bags. That kind of attitude needs to be warned" Interviewee K.A

"So, who have just bought this bag? Oh only 20 people. Then, we asked them to send us their recent bag pictures. Then we can identify (the markup resellers)", Interviewee C.A

4. Changing Boundaries

Over time, changes related to Social, Technology, and Individual Participant occur. Abekani developed new technological arrangements and new meanings of the features of Technology. Interview results showed that during these changes, some individual participants developed

more commitment and expanded their expectation towards the community. There are also times that the individual participants were forced to leave. The changes in Technology, Social, and Individual Participant were captured in Table 5.13.

Table 5.13 Abekani Changing Boundaries

Change	Explanation	Example of excerpt
Technology Change		
The use of Whatsapp application to aid communication	Over time, as closer relationships were developed, members started to use Whatsapp application to aid their group communication. Whatsapp gave them the opportunity to develop more personal relationships.	<i>"we created Whatsapp group, when we have Whatsapp group, it means that we want to have more personal relationships"</i> Interviewee H.A
Turned off comments	Turn off comment feature became common to be used by individual participants to respect others or to reduce conflicts. Turn off comment feature used by the firm to show decision has been made.	<i>"When a thread invites conflict, they turned off the comments to stop the conflict"</i> Interviewee H.A
The use of file sharing to aid order process	The order processes were always accompanied by a shared file containing members who won the fight. These lists were very important as a tool to establish rules. The lists were carefully checked by other participants to make sure that no one violates rules.	<i>"Order list, they shared the order list and requested us to check it"</i> Interviewee G.A
Google form to manage orders	The fight to order bags was completed by using Google form. Before that, they only used Facebook platform.	<i>"five bags or more were used 1 link ... now, they used Google form, with more than one link"</i> interviewee F.A
Use comments combined with turn off comment collaboratively for games and fun play	The fight to order bags was also completed by using Facebook comments.	<i>"...Facebook comments depending on how fast we write the comment"</i> Interviewee F.A
Social Change		
Social hierarchy	As time goes by, local area groups were developed. Each local group was managed by an area coordinator. Area coordinator helped its	<i>"sometimes my friends complained ... about some area coordinators are grumpy or making things complicated ... tapi, for me as an abekani member,</i>

Change	Explanation	Example of excerpt
	members to re-inform information.	<i>having area coordinator makes things easier</i> Interviewee I.A
A strong sense as one community	Members think that this community was more than just bag lovers, it was a sisterhood or a family	<i>"Thank God, up to know, we, 17 people, were still together ... I felt like I met a new family here"</i> Interviewee H.A
High variation of events	Abekani had various events	<i>"It is a social event that helps others, we do charity too"</i> Interviewee F.A
Individual Participant Change		
More expectation	Individual participants who wanted bags at first, gradually expected friendship more.	<i>"At first I wanted to have various models of bags, I wanted that, this... then lately, I want to make friendship more than owning Abekani bags",</i> Interview A.A
More commitment	They also more committed to the community.	<i>"I think becoming an area coordinator is a professional job to take care of people, I should make them stay together and comfortable with the community",</i> Interview K.A

5.4.3.2 Value Co-Creation in Berliano

1. Firm as a co-creator and a facilitator

Not much evidence regarding the firm's roles as a co-creator or a facilitator was found in the interviews. Three groups of events in the firm as a co-creator and three groups of events in the firm as a co-creator are elaborated by interviewees. The three groups of events under the firm role as a co-creator are Product and Service Co-Design, Orders and Payments, and Complementary Activities. Another three groups of events under the firm role as a facilitator are Sell, Buy, & Barter, and Self Disclosure.

2. Consensus Making

No interviewees mentioned their involvement in making rules. The rules have been there, made by the sponsoring firm. Most of the rules were copied from Abekani.

3. Consensus Settlement

Although no consensus making is described by interviewees, they mentioned establishment current rules happen. As mentioned above in subsection 5.4.2.2 about constraints in Berliano, the sponsoring firm only allows their members to post a thread according to the schedule and warns members who post threads outside the schedule.

“I made a mistake, I post a thread of my bag with no caption. Then the sponsoring firm warned me. They said that my post made this community like a market place”, Interviewee D.B

4. Changing boundaries

Over time, changes in the Social, Technology, and Individual Participant happen. Berliano copied most of Abekani rules. When Abekani changed its rules, Berliano would also follow, particularly changes in Technology. Although Berliano copied Abekani rules, Berliano developed different Social changes. Berliano had a less social bond. The relationship between members is limited to buying and selling. Another thing that was revealed by interviewees was that the strict control coming from the sponsoring firm limited the variation of events in Berliano. Individual participants could not initiate new threads outside scheduled events. Lack of variety of events made the situation boring. Even “the fight” that was meant to be fun, could be boring for the interviewees.

“rarely we had interactions between members, like discussions... it is rare” Interviewee G.B

“so, over control made this community less vibrant. It gets boring if I may say. So far, our activities were just as scheduled by the sponsoring firm, not more” Interviewee F.B

Table 5.14 Changing boundaries in Berliano (findings from interview)

Change	Explanation	Example of excerpt
Technology Change		
Google form to manage orders	The fight to order bags was completed by using Google form.	<i>“The fight system, now they use Google form after the comment”</i> interviewee E.B
Social Change		
Low social bond	In general, most of the interviewees said that they join the community just for the bags. As a result, no further connection was made.	<i>“well, it feels like buyer and seller relationships ... so, I sense gaps in our relationships”,</i> Interviewee G.B
Low variety of events	Interviewees said that the events in Berliano were just scheduled events and it was dominated by buying and selling events	<i>“rarely we had interactions between members, like discussions... it is rare”</i> Interviewee G.B
Individual Participant Change		
Negative Evaluation	Affective	Interviewees got bored with “the fight” which was meant to be fun.
		<i>“Over time, the fight becomes boring because no bags I can get”,</i> Interviewee H.B

5.5 Summary of Interview Findings

This section has examined the interviews conducted with Abekani and Berliano members for enablers and constraints of value co-creation, and how value is co-created in sponsored communities of interest. Interview findings have enriched the online data text findings. Twenty six interviews were conducted, fifteen from Abekani, eleven from Berliano, and two additional interviews from two persons that were members of both online communities.

Evidence for sixteen themes of enablers has been found. Two of them are new themes, with one of them having been already found in content analysis. Interview findings have shown more constraints than content analysis. In total, eight constraints have been revealed. Six of them are new, with three of them having already been found in content analysis. Six groups of events in a firm as a facilitator and four groups of events in the firm as a co-creator were also confirmed through interviewees. Interviewees have given insights into the possible mechanisms that shape value co-creation in fluid organizations. These mechanisms are Consensus Making, Consensus Settlement, and Changing Boundaries.

The interview findings have confirmed the content analysis findings of the similarities and differences between Abekani and Berliano. First, although Reward System is found as an enabler, the interviews have revealed that Reward System was not important for the individual participants. Second, Berliano has confirmed less evidence in enablers comparing to Abekani. Third, Berliano also has demonstrated more evidence in constraints. Fourth, Abekani has more variety of events than Berliano. The interview findings have revealed that Abekani has more activated mechanisms than Berliano. Abekani has demonstrated more Consensus Making and Consensus Settlement. As a result, they exhibited more Technology, Social, and Individual Participant changes that invite more participation.

In summary, this section has resulted in three contributions:

- (i) The completion of enablers and constraints which were previously developed based on content analysis. This section is not only supporting the enablers and expanding the constraints found in the previous findings, but the interview study has also captured more detailed stories experienced by individual participants, such as the growing motivations in the online communities that were not identified through online texts only.
- (ii) The second contribution is the proposed mechanisms to explain value co-creation in communities of interest. The in-depth interviews have disclosed individual participants' perspective towards the community. They shared what they appreciated and what prohibited them from participating in the community. Through their perspective, I have identified

mechanisms that can explain value co-creation in both online communities and justify the differences between the two online communities.

(iii) Last, this section provides confirmation and complements the content analysis findings. This section has helped to improve the quality of this study by demonstrating multiple approaches to support findings.

CHAPTER 6 DISCUSSION

This chapter summarizes and synthesizes the findings presented in the previous chapters. Subsections 1.1 to 1.4 discuss the answers to the research questions. This is followed by empirical corroboration validating the proposed model of value co-creation in sponsored online communities. At the end of this chapter, I discuss the implications of the findings on the two theories used in this thesis, which are service dominant logic (SDL) and sociomateriality theory.

6.1 Characteristics and Types of Sponsored Online Co-creation Communities

This section answers supporting research question 1 (SRQ 1), “*What are the characteristics and types of online co-creation communities?*” The Systematic Literature Review (SLR) resulted in the identification of four types of sponsored online co-creation communities (as per Figure 4.4), and also uncovered their associated characteristics (outlined in Table 4.1) as follows:

- *Open source communities* refers to production systems (to create content or collaboratively develop objects) that depend on individual actions that are directed by themselves and decentralized rather than being hierarchically assigned (Nakatsu, Grossman & Iacovou 2014; Ståhlbröst & Bergvall-Kåreborn 2011).
- *Commercial communities* are firm-hosted online aggregations of customers who collectively co-produce and consume content about activities that are central to their interests as customers. One of the common forms is the community for service support (Wiertz & de Ruyter 2007) but it is not limited to that. For example, customers can be a product conceptualizer, product designer, or product tester (Nambisan & Nambisan 2008).
- *Communities of interest* are social networks in which members have a shared interest and acknowledge their membership in the groups. These communities are freer of tasks compared to other community types and focus on the development of relationships. Mostly, they have online and offline interactions to develop a more intimate relationship, for example, brandfest events (Wu & Fang 2010). Communities of interest tend to develop a strong communal identity (Seraj 2012) by having their own rules and language use.
- *Crowdsourcing communities* are understood as large numbers of people who provide input towards a specific goal. In most of the crowdsourcing projects, the individual participants are motivated by rewards (Zhao & Zhu 2014). The members in crowdsourcing are more varied compared to commercial online communities and communities of interest. They come together to solve problems defined by the initiator firm. Threadless™ and 99designs™ are

examples of crowdsourcing. The request is explicit, that is, to develop a design, and a financial reward is available for the selected design.

These four types were distinguished based on two dimensions: (i) market need vs. solution need orientation; and (ii) low self-organization vs. high self-organization. This study focuses on the communities of interest which have high self-organize and produce information about the market for the sponsoring firm and provide a high degree of self-organization rather than produce a particular solution to solve a particular problem. Both case studies investigated in this research show that the product of the community for the sponsoring firm is not limited to the solution of a particular problem. The communities produced information about their customers, such as their hobbies, preferences, and personal backgrounds. In some occasions, the communities also provided the firm with problems and solutions.

High self-organization in communities of interest is demonstrated through its ability closely coordinate an agreed consensus and make a collective decision as a response to its environment. Abekani has demonstrated efforts to establish agreed rules with its members. One of the obvious examples of a high degree of self-organization in this online community is what it did to tackle markup resellers. Most of the member of Abekani wanted to buy affordable leather bags. Due to the high demand of Abekani bags, Abekani second-hand bags were often sold at a price higher than the original price. This discouraged the less privileged members of Abekani from owning the bags. In response, Abekani members proposed a rule in the community to forbid members from marking up the sale price of their bags. Via online discussions the firm and the community members established the rule together. Table 6.4 shows the threads demonstrating this process.

As another example, Abekani also displayed their self-organization in accepting new members to the community. At first, the firm asked the current members' opinions regarding the registration of new members. These requests received hundreds of responses in the thread. Most of the responses discussed the impact of non-filtered member acceptance to the markup reseller rules and other rules. If the sponsoring firm accepted new members without knowing who they are or what their motivations are, then it would be difficult to establish and apply rules for the current members of the community. In addition, they also had a concern related to the competition to own bags. Finally, a rule was agreed. The rule was "new member should be a real person (as opposed to fake accounts), therefore they should be known and nominated by other members". The rule was established and managed by both the firm and its members. During registration of a new member, the current members actively engaged with new members by educating, welcoming and inviting them to their offline groups. The current members also actively screened future members and took responsibility

for any new members who violated established rules. The detailed threads of this process are presented in Appendix III.

High self-organization in communities of interest is also demonstrated by the development of rules by its participants and members' capability to take part in managing the online community. Berliano is also categorized as an online community of interest although the firm demonstrated fewer efforts to establish consensus from individual-initiated rules. The individual participants made efforts to reduce conflicts by themselves. For example, when there was a disagreement, they collaboratively decided to stop the argumentation as explained in Chapter 5.3.1. In addition to this attempt to coordinate individual rules with collective rules, coordination from individuals was also found. One example of an effort made by individuals was an agreement related to a markup reseller who was not well-established. Some threads made by individual participants were posted to discuss this issue. These threads received supportive comments from other individual participants. Threads containing ideas or a discussion about issues can be seen as efforts made by individual participants to share their thoughts and coordinate their understanding of a particular situation. This can also be a way to achieve consensus initiated by individual participants. Table 6.5 shows the details of threads in Berliano demonstrating this process.

Self-organization is afforded by technology. Structures and features of the technology afford its individual users the ability to share their thoughts and meanings responsively. First, Visibility allows the individual participants to let others receive updates on the current discussion by setting an alert. The search feature also helps them to locate discussions they wish to see. Second, Interactivity features enable individual participants to communicate despite being separated by geography and time. Third, Persistence sustains the discussion written on the platform, allowing the community to trace the progress of collective meanings. Fourth, Association informs the member of the online community who the poster of threads and comments is which helps these members to provide appropriate responses. For example, if the reader is the poster's friend, the reader may become more friendly and responsive. Last, the platform gives members Flexibility to turn on or off some features. For example, they may turn off alerts from some individuals or even further block others so that none of the information from that particular person is received. Flexibility helps them to select particular discussions that they consider important.

The discussion of self-organization above sheds light on the importance of social interactions in communities of interest which is of particular importance for the sponsoring firm to consider in their strategy. The typology based on the self-organization prompts firms to consider a wider range of

possible social interactions in their online communities and as a result, shape their strategy to derive relevant benefits and opportunities.

6.2 Enablers and Constraints in Sponsored Online Communities from Individual Participant’s perspective

One of the major contributions of this thesis is its answer to SRQ2 and SRQ3, which combined is: “What are the enablers and constraints in the community?” The SLR study found that constraints and enablers are the results of individuals’ evaluation of the Technology, the Firm, the Social, and the Individual Participant (themselves). Further to this, the empirical results from the two case studies extended the SLR results to the context of communities of interest, the focus of this PhD study. Thus, this sub-section includes two parts:

- First, I present the list of enablers and constraints and also highlight new enablers and constraints found from interview and content analyses and which were subsequently added to the SLR findings,
- Second, I outline the dynamic nature of enablers and constraints.

6.2.1 The list of Enabler and Constraint

The SLR produced a set of enablers and constraints which was confirmed by content and interview analysis, and then expanded by incorporating findings from empirical studies. Table 6.1 summarizes all enablers and constraints identified in the SLR, online texts, and interviews. More than 50% of the evidence found for enablers and constraints was related to Technology. Constraints were found more in interviews than in content analysis and the SLR. This is probably because the interview method allowed me to explore and gave space for interviewees to express their opinion.

Table 6.1 Summary of Enabler and Constraint Themes (V=yes and X=no)

Actor	Enabler/Constraint Theme	Categories found	Found in (✓ = found, X = not found)		
			Abekani	Berliano	SLR
Firm	Enabler				
	Reward System	Monetary reward system Reputation Mechanism Reward Suitability	✓	✓	✓
	Participatory Leadership	Formal and Informal Communication Share Decision Making Creative Customer Identification Activity Development Sharing Tasks * Equal Partnership *	✓	✓	✓
	Transparency	Customer Role Transparency Process Transparency Outcome Transparency Business Transparency *	✓	✓	✓

Actor	Enabler/Constraint Theme	Categories found	Found in (✓ = found, X = not found)		
			Abekani	Berliano	SLR
	Constraint				
	Low Participatory Leadership	Low Activity Development Low Share Decision Making	X	✓	✓
	Low Transparency	Low Process Transparency	X	✓	X
	Reward System	Unsuitable Reward	X	X	✓
Individual Participant	Enabler				
	Motivation	Benefit Expectation Commitment	✓	✓	✓
	Personal Attributes	Current Skills and Knowledge Personality Type Personal Value	✓	✓	✓
	Personal Evaluation	Affective Evaluation Previous Experience Value Equity	✓	X	✓
	Constraint				
	Personal Attributes	Lack of Knowledge and Skills	X	✓	X
	Personal Evaluation	Affective Evaluation Previous Experience	X	✓	X
Social	Enabler				
	Similarity	Shared Interest Members' Commonality	✓	✓	✓
	Sense of Community	Social Bond Community Identity Obligation to the Community	✓	✓	✓
	Content Quality *	Usefulness of Content Discussion Balance Between Personal and Facts Completeness *	✓	X	✓
	Equality	Norm of Reciprocity Perceived of Fairness	✓	✓	✓
	Trust	Integrity Trust Benevolence Trust	✓	✓	✓
	Social Hierarchy *	Social Hierarchy *	✓	X	X
	Constraint				
	Social Hierarchy *	Social Hierarchy *	✓	X	X
	Low Sense of Community	Low Social Bond	X	✓	X
	Low trust	Low Integrity Trust	✓	X	X
Technology	Enabler				
	Visibility	Rating System Information Center Usability Searching Tool	✓	✓	✓
	Persistence	Accessibility Consistent Presentation	✓	✓	✓
	Interactivity	Social Translucence Interactive Feature Virtual Reality	✓	✓	✓
	Flexibility *	Turn Feature On and Off* Mode of privileges * Privacy Level *	✓	✓	X
	Association	Interpersonal Relationship Association between Individual and Content	✓	✓	✓
	Constraint				
Low Association	Limited Interpersonal Relationship	✓	X	X	

Actor	Enabler/Constraint Theme	Categories found	Found in (✓ = found, X = not found)		
			Abekani	Berliano	SLR
	Low Visibility	Limited Searching Tool Ability Inappropriate Knowledge Center	✓	✓	✓
	Privacy *	Privacy *	X	✓	X

* New categories/themes found in interviews and/or content analysis

Three new enabler categories—Transparency, Participatory Leadership, and Content Quality—have been added to the initial SLR list of enablers. The findings have also shown two new themes under Technology, which is Flexibility (an enabler) and Privacy (a constraint), and one new theme of enabler and constraint under Social, which is called Social Hierarchy. Those themes are elaborated as follows:

- Transparency:* Previous studies limit Transparency to the process of idea generation and implementation such as the selection of ideas, the process of idea implementation, and the final results. The findings show that Transparency includes not only the process of idea generation and implementation but also business transparency. Abekani and Berliano shared their internal information such as the supply chain, internal processes, and financial reports. To assure their members that Abekani had done their absolute best to produce bags, Abekani published the names of their suppliers with contact details. Members of Abekani are able to contact these suppliers to check the raw materials and the selection processes that Abekani uses to choose their bag leather. This new type of transparency is not new in the business to business relationship (for example: Dyer & Singh 1998). One of the ways to develop competitive advantage in the market is by developing an alliance with other businesses in delivering products or services. In developing an alliance, businesses develop routines on sharing information about how to conduct their business. Sharing knowledge helps organizations to teach and learn from each other so together they can combine their resources to produce rare and difficult to imitate products or services.

This finding confirms the perspective of value creation offered by SDL through which all actors in value creation (for example: consumers, businesses) exchange services and integrate resources (Vargo & Lusch 2011; Vargo & Lusch 2016). From this perspective, all exchanges can be considered as actor to actor (A2A) and business to business (B2B) because all participants are producers as well as consumers (Vargo & Lusch 2011). The case studies investigated in this research demonstrated the positive impacts of Transparency. However, this is not always the case. Being too open with customers can cause negative consequences, such as in the case of “The Ordinary” where stores were closed following online posts by the founder (BBC 2018).

- *Participatory Leadership*: most previous studies relate Participatory Leadership to the development of ideas by participants for the sponsoring firm. In the case of Abekani, its online community members were invited not to share ideas only, but also to manage the online community by Sharing Tasks. Abekani members and the sponsoring firm have shown their ability to share tasks. For example, Abekani allowed its members to select new members. Abekani responded immediately to negative comments and clarified which things were under Abekani control and which were under the online community's control. Abekani also repeatedly emphasized its relationship with members as equal partners and demonstrated that it cares about what matters for participants (Equal Partnership).

This finding is in line with, and provides empirical evidence for one SDL premise; that value co-creation is coordinated through rules generated by actors in the ecosystem. The finding underpins this premise with empirical evidence of how the sponsoring firm manages various personal motives and expectations and conditions the online community to generate rules that are agreed and supported by individual participants. In this case, the sponsoring firm shared its power in the online community with its members to develop rules in managing the online community. As a result, online community management is not fully under firm responsibility. The sponsoring firm also exercised Equal Partnership in maintaining its relationship with individual participants.

- *Content Quality*: refers to the balance between personal opinion and factual information. The findings have demonstrated that it is equally important for both Abekani and Berliano, in particular if it is related to Buy, Sell, & Barter transactions. They both require a complete and detailed description of bags that are sold or bartered in one thread (Completeness).
- *Flexibility*: is the ability to activate and de-activate features of the platform. This flexibility is very important to support daily events in both communities. To reduce conflict, the turn off comment feature stops the discussion which can be helpful. . Although the individual participants may create more threads to have another discussion, the feature indicates that a particular discussion should be stopped. The turn on/off comment can be used playfully. The online communities use this as a tool to make the order bag process (which they call "the fight") more fun. For example, within two minutes, the poster may use the turn off comment feature so that no one can bid or order bags. This makes the order bag process more difficult and at the same time brings fun to the individual participants. Features that afford flexibility are: turn on/off comment, set privileges, and the flexibility to select the channel of communication, such as personal chat or public comments.

- *Privacy*: is a problem that occurs because of the difficulty in managing privacy in online platforms. Some interviewees felt that sharing pictures is potentially dangerous, for example, an unknown and irresponsible member could steal a picture and use it inappropriately. This constraint was annoying for some participants but did not totally prevent them from participating because they used a simple technique of adding identifying characteristics to the middle of their pictures to prevent it being used inappropriately. Although for some other participants, this meant too much work. For others again, privacy is not a concern.
- *Social Hierarchy*: is a condition in a group where members vary in their level of power, influence, or dominance. This theme was seen as an enabler and a constraint. An obvious social hierarchy was detected in Abekani. As the community grew local area groups also grew. Each local area had one leader called the area coordinator. They were selected by the members for the members. Area coordinators were in charge of managing their local area groups. Most interviewees agreed that area groups made the online community group more enjoyable. The area coordinators also helped their members to stay informed about important matters. However, some participants did not like this hierarchy because it made them feel powerless. They explained this by saying that the area coordinator was not restrained in their approach.

6.2.2 Dynamic Nature of Enablers and Constraints

The findings outlined in Chapter 5 revealed that any one enabler can act as a constraint or vice versa depending on the community, individual perceptions, and other circumstances. This has implications for how value is shaped in online communities of interest, by showing the dynamic and changing nature of each actor in value co-creation. Below are scenarios found in the case studies:

- Auto-Updated timeline on Facebook is one of the examples of a constraint which can also act as an enabler (Visibility). Auto-Updated is needed to receive information about activities in the online community, but it is perceived as annoying in the middle of “the fight”. Most of individual participants agreed that Auto-Updated in the middle of “the fight” was unsuitable. Another example is the obvious Social Hierarchy in Abekani. For some individual participants, it is helpful, while for others it creates distance and inhibits them from participating in the community.
- If a constraint is properly managed and responded to, it can help to develop enablers. As mentioned in Chapter Five, a group for women aged over 50 was created in Abekani by the sponsoring firm. Using Facebook can be challenging for women in this age group. They need a longer time to read updates and to respond whereas the community is very active with a

large volume of posts and updates every day, reaching up to 100 new threads in a day. The creation of this group allowed a stronger sense of community to develop for this group. The group of over 50s women is well-known and mentioned a lot by the firm and other individual participants. A lot of younger participants did things to help these participants continue their participation in the community. The firm also provided them with different ways to own the bag so that they did not have to go to “the fight”. What Abekani did was not to improve the older members’ skills by conducting training or sharing knowledge for them. They also did not change the technology. What they did was develop an awareness of the existence of people who have different capabilities and allow them to enjoy the community together with everyone else which eventually changed Social

Those scenarios show that enablers and constraints are not always two sides of the same coin. These actions may trigger each other or occur concurrently and can be interpreted as both constraints and enablers. They also show that enablers and constraints can be subjective and situational.

Next, I describe the relationship between constrains and enablers from the SDL and sociomateriality theory. Recalling sociomateriality, Individual Participant and Firm, as the human actors, adapt to the technology if they see the technology enabling the achievement of their objectives (Leonardi 2011). On the other hand, if the technology constrains Individual Participant and Firm in achieving their goals, they will try to change the technology to fit their purposes. During these changes, Social will come up against different constraints. Then the cycle starts all over again, and either Social is changed or the technology. The model goes on creating cycles that change the organization gradually. The model was developed based on a case study in a formal organization where all employees work under formal contracts. This means that the model implicitly assumes that Individual Participant and Firm share the same perspective of the problem. This study offers a new way to understand enablers and constraints in a fluid organization where participants may have various expectations and the freedom to leave. The findings have shown that enablers and constraints from the participants’ perspective are subjective due to the multiple and sometimes contradictory goals among participants in an online community. One participant may say a particular situation enables them, another one may say differently, as found by Volkoff & Strong (2013). This implies that interpretations of the technology are subjective which is described by Volkoff & Strong (2013) as strands of interpretation. These strands become intertwined or concatenated, which eventually continuously change the organization. It also explains why the same technology may produce different phenomena.

How these strands of interpretation may affect the other actors is elaborated through the ecosystem perspective of SDL for value co-creation. The ecosystem suggests two things. First, the ecosystem

perspective represents spontaneous sensing and responding within the system. The use of the service ecosystem emphasizes the interactions that are self-governed and self-adjusting at various levels of aggregation in a flow of service exchanges. Second, rules should be agreed by actors to regulate the ecosystem. Based on this, value co-creation occurs if these various strands of interpretation of enablers and constraints are communicated and agreed rules are developed. When a new understanding and rules are applied, the actors in the ecosystem adjust to comply with the new rules. This may invite different constraints, or may enhance current enablers. This explains why some constraints, if properly managed and responded to, can help to develop enablers.

6.3 Value Co-Creation in Communities of Interest

This section presents the main contribution of this thesis. It answers SRQ 4, *“how is value co-created?”*, and together with the above sections, it will lead towards an answer to the primary question of this PhD which is *“How do firm sponsored online communities of interest enable, constrain, and co-create value from the individual participant perspective”*.

In a firm sponsored online community, the sponsoring firm has a responsibility to coordinate value co-creation between participants. This section elaborates on how the role of the Firm (as a facilitator and a co-creator) and fluidity of the online community shape value co-creation, and includes three subsections:

- Discussion of the two roles of the firm and how the firm switches between one to another
- Elaboration of the proposed mechanisms that explain how value is co-created in communities of interest and the role of the firm in the mechanisms
- Explanation of the relationship between mechanisms, enablers and constraints

6.3.1 The Roles of the Firm in Value Co-Creation

The firm has two roles, as a facilitator and a co-creator, and constantly switches between them.

- **The Firm as a facilitator**

The sponsoring firm role as a facilitator means that the firm facilitates interactions between individual participants without having direct interactions with the participants. 85% of threads in both online communities fall under this category. Groups of Events within this role are Ideas & Reviews, Self-Disclosure, Interpersonal Relationships, Knowledge Sharing, Sell Buy & Barter, and Business Opportunity. The findings (Chapter Five) showed us that in Berliano, the majority activity is Buying, Sell, & Barter; while in Abekani, various groups of events are almost equally distributed (Reviews and Ideas, Personal Existence, Interpersonal Relationship, and Buy, Sell, and Barter).

- **Firm role as a co-creator**

The firm becomes a co-creator when there are direct interactions between individual participants and the firm. Sponsoring an online community enables the firm to be the co-creator at any time. When the sponsoring firm posts a thread in its online community, it is assumed that the firm is willing to have direct interaction with its members and is considered to be conducting its co-creator role. The findings (Chapter Five) have shown us that there are four groups of events with the firm as a co-creator. These events are Open Product and Service Creation, Open Completion Process, Playful Activities, and Complementary Activities.

Compared to facilitator activities, co-creator activities were shown to be very low (15% in Abekani and 10% in Berliano), which means that in both online communities, the discussion is dominated by individual participants. The co-creator events seem to be pre-planned by the sponsoring firm and are initiated internally or may be inspired by a discussion among individual participants. As a co-creator, the firm provides members with adequate information and clear procedures. Most of the comments made by the firm in these events are to clarify rules.

The use of an online community blurs the line between the firm as a facilitator and the firm as a co-creator. The visible activities of peer communication create a way for the sponsoring firm to get involved in the communication and change the communication among individual participants into an interactive communication between individual participants and the sponsoring firm.

An example of how the sponsoring firm became involved and changed its role from facilitator a co-creator is present in a thread from 27 October 2016 about the revision of the embargo duration in Abekani. A member posted a thread about an idea to suspend the ability for members who win “the fight” to make their next order. The poster suggested suspending the ability to make the next order for two months after winning a fight. The thread received many pro and contra comments. Most of the participants agreed on the suspension (or what they called embargo), though not everyone liked the proposed duration. The firm posted some comments to clarify the idea. For example, the firm said that they did not have enough resources to manage the embargo which was replied to by other members who willingly offered to help manage the embargo. A detailed plan to execute the idea was discussed between individual participants. The firm also said that adding more rules would add complexity and may make Abekani unpopular. Other members convinced the firm that this rule was liked more than disliked.

At the end of a conversation a decision was made and the comment was turned off so that no further statements could be added. It was decided to accept the idea. The two-month embargo duration was

subject to revision if necessary. The firm's role was only to provide the list of people who won the fight and members' role to monitor the embargo. If they found members who violated the rule, they had to report this to the firm and the firm would remove the name from the winner list. Then, a thread was made by the sponsoring firm on 3 December 2016 to announce the final decision about the embargo duration. In that thread, the firm announced updated rules and reminded the participants to obey these rules. The firm also asked the participants to check the order list.

6.3.2 The Mechanisms in Sponsored Online Communities to Co-create Value

As presented above, almost 85% of the time the firm acts as a facilitator which highlights the important role other actors play in value co-creation. This aligns with SDL's foundational premise in regards to value being co-created through coordination between actors. This coordination is realized through three mechanisms: Consensus Making, Consensus Settlement, and Changing Boundaries.

To come up with these three mechanisms, this study developed an initial model of value co-creation in Chapter 2 (Figure 2.7). Then, based on findings from empirical studies, the study refined the understanding by proposing mechanisms to explain the phenomena. Identified mechanisms were added to the model and the model updated (Figure 6.1). The mechanisms were found to occur at the level of dyadic activities (between individual participants and between individual participants and the sponsoring firm) and at the broader system. Subsequently, empirical corroboration was conducted to make sure the mechanisms were plausible enough to explain the phenomena. The empirical corroboration is reported in section 6.4.

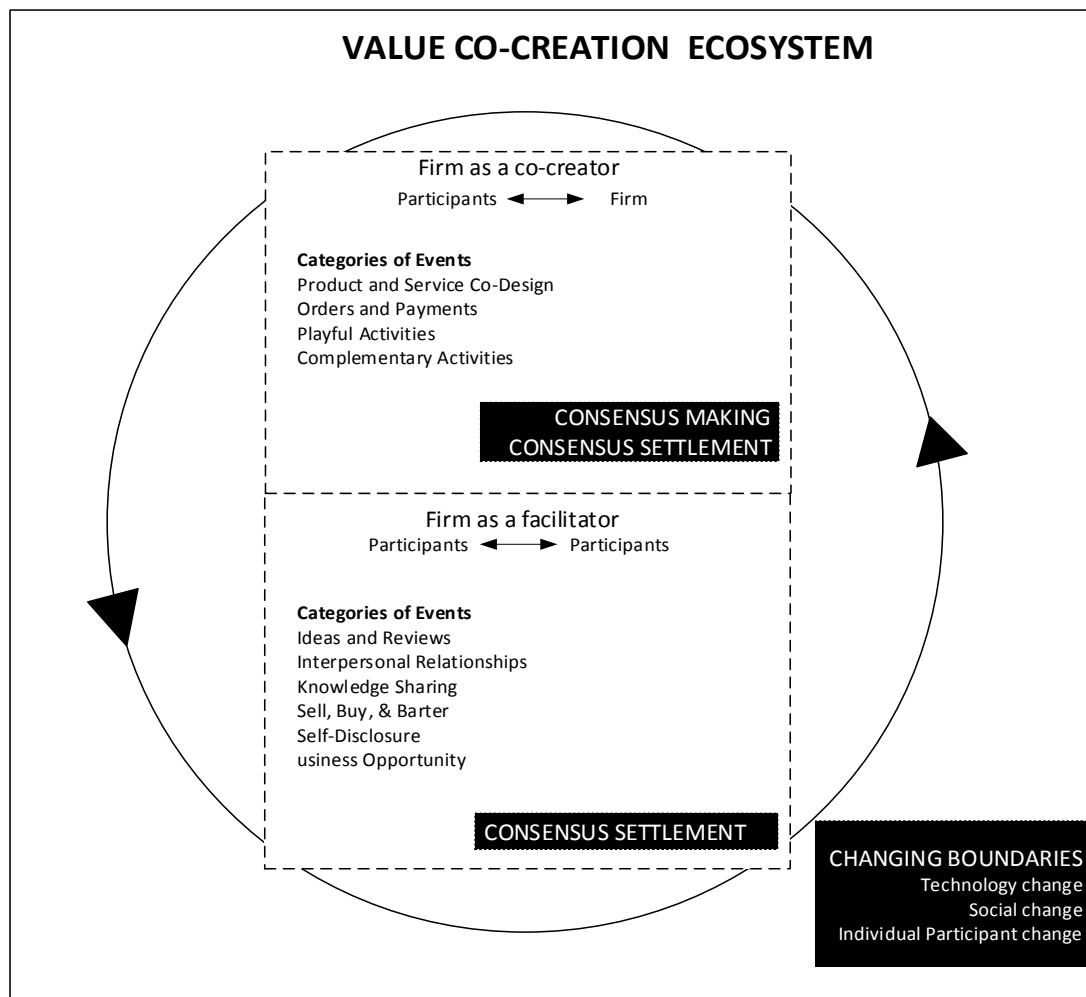


Figure 6.1 Value co-creation model in sponsored firm online communities

Consensus Making

Based on events explained in Chapter Five, there are repetitive conversations between individual participants where they share their understanding of a particular situation in the firm sponsored communities of interest. These conversations invite other individual participants and the sponsoring firm to express their understanding. The conversation continues until an agreement is reached. The conversation where understanding is shared and agreements reached is referred to as the mechanism “*Consensus Making*”.

Consensus Making emerges from the interactions between the sponsoring firm and individual participants as they endeavor to understand and establish a common ground to enable actions on behalf of the online community. The outcome of this mechanism is a consensus or agreed rules. During Consensus Making, rules and decisions are collectively made by the firm and individual participants. This mechanism describes the tendency of the sponsoring firm and individual participants to engage in the creation of common meanings and shared understandings (Williams & Karahanna 2013). This

study also showed instances when individual participants proposed common ground or an agreement which did not receive support from the sponsoring firm. In this event, the Consensus Making mechanism did not occur. Examples of events representing Consensus Making and the outcomes are presented in the below table (Table 6.2).

During Consensus Making, the firm involvement legitimates the proposed rules and it is the only one with the authority to update the formal rules. If the sponsoring firm does not react to rules proposed by individual participants, as demonstrated by Berliano, Consensus Making does not occur. If the sponsoring firm takes a facilitator role and just lets the discussion flow without further involvement, the proposed rules are difficult to be adopted as a formal consensus.

Technology enablers such as Interactivity, Persistency, and Visibility make Consensus Making possible in geographically dispersed communities. Interactivity allows members from different geographical locations to join the discussion and share their opinions. When someone writes a comment in a thread the timeline is updated and this helps other members understand the importance of the discussion. This may also attract their attention enough to join or watch the discussion. Once the discussion is online, the data is retained by Facebook and is accessible to others. The sponsoring firm (Abekani) kept the complete final discussion in the file sharing feature available on Facebook. The Flexibility of the turn on/off comment feature in a thread was used as to signal to the end of the discussion and the final consensus before another discussion is started. Therefore, if someone misses the thread, they may miss the Consensus Making. In a community with frequent updates and thousands of members such as Abekani, this happened quite often.

Table 6.2 Events representing Consensus Making and the outcomes related to enablers and constraints

Thread	Explanation	Outcome
Made by Abekani, 13 Dec 2016 (from open product and service creation activities) Abekani received a lot of requests from people outside the Abekani online community. They wanted to buy Abekani bags but found it was difficult to be accepted into the online community. Abekani wanted to help them to be accepted in the online community. However, She asked permission from others in the group to invite them into the group.	Abekani wanted to accept requests to join from new people. Most of the individual participants rejected this request. Some of the reasons were: " <i>it makes this community just like buy and sell community</i> " and " <i>difficult to control markup resellers</i> ".	This conversation legitimated the recruitment process. This also produced agreement on the individual participants' obligation to take moral responsibility for the recruitment process (increased sense of community). The fact that the firm asked its members first before making a decision, showed the participatory leaderships of the sponsoring firm.
Made by Abekani, 8 February 2018	This is straight forward collective decision making.	Bags produced from this process were loved by

<p>(from open product and service creation activities) Bag competition. The winner is selected based on the highest number of likes from other members.</p>	<p>Individual participants submitted their designs and other individual participants selected their favorite designs by clicking the like button provided by Facebook.</p>	<p>individual participants. The bags became signature designs of Abekani. Usually, small-medium leather bag firms tend to copy big brand designs. After this competition, Abekani had its own designs which represented what their customers wanted and it did not copy designs from other big brands.</p>
<p>Made by Abekani, 3 December 2016 (from Complementary Activities) The firm announced the embargo rules and invited members to check members who were under embargo and not independently. A response to this thread made by an individual participant, 27 October 2016 (from idea and review activities) The poster suggested applying the embargo rule. Everyone who had just bought an Abekani bag should wait for two months until before being allowed to buy the next Abekani bag. The poster suggested a two months of embargo duration.</p>	<p>The firm announced the application of the embargo system, an idea from an individual participant. The idea was posted on 27 October 2016. The total number of comments for the idea thread was 616. This idea received a lot of supportive comments from other individual participants. At first, the firm responded to this idea in the same thread by asking further questions about the detail of the system such as, "<i>who will do the checking of who is in the list and who is not.</i>" The individual participants agreed to do the check by themselves.</p>	<p>The embargo rule was applied. The sharing of tasks was discussed in the thread with the following result. First, the firm shared the order files. The file was published for other individual participants to review. Then, after a batch of orders was placed, the firm released the list. Individual participants checked the list to make sure that nobody violated the embargo rules. Finally, if they found individual participants violating the embargo, they reported this to the firm and the firm removed the name from the order list.</p>

Consensus Settlement

The firm's switching between the facilitator and co-creator roles explained in the section above shows that along with the Consensus Making mechanism, there are times when individual participants and the sponsoring firm collectively informed the result of Consensus Making to other members. In online communities where participants are fluid (they may come and go as they wish), consensus establishment is challenging. That may happen because new members may not know the previous consensus or they may lose track of updates.

Although the fluidity may become a threat to the establishment of consensus, an opportunity for collaboration may occur when the community responds to this in ways that encourage interactions to develop narration (Brown & Duguid 1991). One response that encourages interactions is informing

other participants about the state of knowledge (Faraj, Jarvenpaa & Majchrzak 2011). Consensus Making produces an agreement which may not be known by other individual participants. It requires high involvement of individual participants as well as the sponsoring firm to inform others with the latest consensus. The mechanism includes not only constant reminders and discussions but also actions for participants who disobey the consensus. This mechanism does not produce new consensus, rather it strengthens the current consensus. This mechanism is called "*Consensus Settlement*." This can be seen as a way to develop interaction stability, i.e., efforts to stabilize agreed rules in the online community (Pica & Kakihara 2003). Consensus settlement is the tendency of the sponsoring firm and individual participants to engage in the process of sharing current common meanings and shared understanding by strengthening current understanding as in the echo chamber phenomena (Garimella et al. 2018). Examples of events representing Consensus Settlement and the outcomes are presented in the table below (Table 6.3).

Consensus Making creates opportunities for the sponsoring firm to further access individual participants' needs and also the means to fulfill those needs. Consensus produced by coordination between the sponsoring firm and individual participants encourages individual participants to establish the rules. This is when Consensus Settlement is activated. During Consensus Settlement, each member of the online community (the sponsoring firm and individual participants) inform others and enforce the consensus. This means that Consensus Settlement can be activated in both firm roles, as a co-creator and a facilitator.

Although not everybody joined Consensus Making, Technology enablers such as Persistency, Association, and Visibility allow individual participants to monitor the interactions in the online communities. When members violate the consensus, other individual participants may act to stop the consensus violation. Individual participants who joined Consensus Making may create a thread that shares and reminds others of the consensus. The interactivity allows members from different geographical locations to join in the discussion to re-emphasize the consensus. Visibility from automatic updating the timeline when someone writes a comment in a thread, informs others about the discussion. This, combined with Association which informs others about the poster, may attract their attention enough to join or watch the discussion. Once the discussion is online, the data is retained by Facebook and is accessible to others.

Table 6.3 Events representing Consensus Settlement and the outcomes related to enablers and constraints

Thread	Explanation	Outcome
<p>Made by an individual participant, 13 July 2018 Under personal existence activities (Berliano). The poster shared her Berliano collection. The thread received supportive comments such as “wonderful”, “beautiful”</p>	<p>Sharing their bag collection and receiving supportive comments strengthens their belief that their bags are cool.</p>	<p>Strengthen communal beliefs about the Berliano bags.</p>
<p>Made by an individual participant, 21 July 2018 Under interpersonal activities (Abekani). The thread is about an offline meeting organized by Abekani members. The poster said that Abekani helped her to make friends.</p>	<p>This thread strengthened the belief that Abekani helped them to make friends.</p>	<p>Strengthen individual beliefs about Abekani will help them to make friends.</p>
<p>Made by an individual participant, 27 October 2018. Under knowledge sharing activities (Abekani). The thread discussed whether a preloved bag was allowed to be sold with the new bag price.</p>	<p>Based on the consensus made before, the rule clearly stated that no markup price was allowed. But no rule said how much the price should be for the second-hand bag. Therefore, some of the individual participants agreed this was allowed. However, some others suggested that the price should be below the new price especially if the bag was not in perfect condition. Although this discussion was directed to expand the markup rule scope, at the same time all participants showed agreement with the previous consensus and re-shared the context again when the consensus was made.</p>	<p>Remind others of the reason markup reseller rules were made. Legitimate the markup reseller rules.</p>
<p>Made by an individual participant, 14 September 2017. Under Knowledge Sharing (Abekani). The poster reminded others of the current consensus about markup resellers. The poster suggested to reduce markup resellers; they should make a strong commitment not to buy bags from markup resellers.</p>	<p>This thread was made after the consensus about markup resellers was made. Although the rules were clear and penalties placed on some members, markup resellers were still detected by Abekani members. This thread received supportive comments from other individual participants. Some of them shared the temptation of buying bags from markup resellers but they also convinced others that spending that much money was not worth the joy</p>	<p>Legitimate the markup reseller rules and the continued fight against markup resellers.</p>

Thread	Explanation	Outcome
This removes the markup resellers market.	compared to buying bags from non-markup resellers.	

Changing Boundaries

Actors in online communities continuously respond to and sense the changes in the online community as a result of Consensus Establishment and Consensus Making. During these changes, some individual participants may feel that the online community does not fit their personal views anymore and they decide to leave. There are also times when individual participants are forced to leave by others. The outcome of Consensus Making and Consensus Establishment mechanisms may also develop social structures and patterns of technology feature usage. For example, Abekani produced local groups which initiate various activities in the online group. Abekani also turned off the comments in a thread as a way to respect their order ritual (“the fight”). Changes in the community show a mechanism of “*Changing Boundaries*” (Faraj, Jarvenpaa & Majchrzak 2011). The changes include as follows:

- The first is Social change which includes enablers and constraints, rules, and the community as a social unit. For example, the growth of the sense of community and shared responsibility in Abekani. Abekani developed a social structure as a way to control and manage their members. On the other hand, in Berliano, the relationship “buyer and seller” was developed. This refers to the relationship that focuses on efforts to own or buy bags only. The details of these can be found in Chapter Five.
- The second is Technology change. For example, Abekani used Whatsapp to aid their communication. Both Berliano and Abekani used Google Forms to manage bag orders. The Google form produces a report in Excel format which is easy to read and manage. The details of this can also be found in Chapter Five.

Slightly in contrast to Volkoff & Strong (2013), the online communities in this research do not have much flexibility to make changes to the platform (Facebook). The platform offers them some level of flexibility, which is very limited. To tackle this problem, the online communities combined the Facebook platform with other available platforms such as Google Forms and Whatsapp. The online communities also demonstrated their ability to change the meaning of the feature offered in the technology. For example, “the fight” becomes like a game because of the combination of the posting and turn on/off comment features in the system. In “the fight” the turn on/off comment is seen as a sign of the end of the game. Thus, changing technology means changing the material of the technology, creating a new arrangement of the technology, and the participants’ meaning of the technology.

- The third is Individual Participant's change. The findings have revealed that different changes happened to Abekani and Berliano individual participants. Interviewees who were members of Abekani sensed the stronger commitment to the community. They made more friends and expected friendship from other Abekani members. On the other hand, individual participants in Berliano were mostly motivated by owning the bag and had less expectation to develop friendships.

6.3.3 The Relationship between Enablers, Constraints and Mechanisms

Enablers and constraints make the above three mechanisms possible in the online community. Enablers provide the necessary conditions for mechanisms to occur. When a mechanism happens, it may change enablers and constraints. The findings have shown that although an online community has constraints, it is still able to perform the Consensus Making mechanism which tackles those constraints and develops or strengthens enablers as long as the online community has adequate enablers to enact the mechanism. However, mechanisms do not always develop enablers only, they may also create new constraints that did not previously exist. The relationship between enablers, constraints, and mechanisms in both online communities is explained in the following.

Abekani and Berliano online communities look similar. They are among the top five local leather bag brands in Indonesia (Abekani is number 1 and Berliano is number 5). All of their products always sell out; second-hand bags can even be sold at higher than original price. They also both created an online community to manage their fans. But given the findings of this thesis, Abekani has presented a more vibrant community than that of Berliano. Berliano tries to take advantage of Abekani by adopting most of Abekani's rules (particularly rules related to bag orders). Although their individual participants share a similar profile (age, gender, and passion), it has not been enough for Berliano to succeed in developing a community as vibrant as Abekani's. As the findings have shown, events in Berliano were mostly dominated by buy, sell, and barter bags. Looking at the detail of enablers and constraints, as a firm, Berliano has fewer enablers and more constraints than that of Abekani. Consensuses coming from individual participants to coordinate value co-creation were not well developed in Berliano; thus technology and social changes to generate enablers or to tackle constraints do not occur. Lack of consensuses that coordinate each actor in the online community could be one of the reasons that inhibits the growth of various activities in the Berliano community.

On the other hand, Abekani as a firm has more enablers than that of Berliano. Various activities in Abekani such as Self-Disclosure, Interpersonal Relationship, Knowledge Sharing, and Business Opportunity strengthen individual enablers such as commitment and positive evaluation towards the online community, which will eventually trigger more interactions (Brodie et al. 2013). These

interactions activate Consensus Settlement and invite Consensus Making. As time goes by, along with more interactions and the development of consensuses, enablers from Social and Technology also grow, such as Sense of Community and Association (by combining Facebook and Whatsapp to improve Association ability). Abekani has more committed participants who willingly work for them. Shared tasks between Abekani and individual participants are obvious. Abekani developed task sharing routines for managing bag orders, registering and filtering new members, and identifying markup resellers. Abekani is also able to maximize technology features although they cannot change its feature, by changing the participants' meaning of the technology. For example, the turn off comment feature: Abekani uses it for fun (games, play, bag orders) and serious things (decision makings). However, constraints such as hierarchical relationships emerged as the result of their consensuses.

6.4 Empirical Corroboration in Abekani and Berliano

This section assesses the validity of the findings as outlined in Chapter Three— the corroboration phase of critical realism. The validation of the model is expected to confirm that the proposed mechanisms in the model are able to explain value co-creation. The focus of this section is to validate the model by selecting a series of events from both communities. This series of events needs to be comparable between both communities, so that the model can be validated against them. To this end, “markup resellers” was chosen for the purpose of corroboration.

The “markup resellers” discussion demonstrates close coordination in reaching consensus and making decisions related to the management of bag resellers. This issue has been under discussion at Abekani since 2015 and continued to 2018. The events related to this issue showed the firm taking both the co-creator and facilitator roles. The issue became more interesting because a contrasting result was obtained: Abekani members demonstrated close coordination to tackle this issue. On the other hand, no adequate mechanisms of coordination emerged in Berliano.

Due to quality maintenance, internal capacity, and supplier problems, both Abekani and Berliano cannot meet market demand. As a result, other people are willing to pay double price or even higher to own Abekani and Berliano bags. People who sell their Abekani or Berliano bags to others with a higher than original price are called markup resellers. Markup resellers are not welcomed by individual participants for various reasons. Most Abekani members interviewed stated that the act of marking up the price is a selfish act because it reduces the opportunity for true fans of Abekani and Berliano to own bags.

Some events occurred in both online communities to discuss and develop a collective decision on how to penalize participants of the online community who acted as markup resellers. Highly interactive events related to this issue were selected. Most of these events were classified under knowledge

sharing, ideas and reviews, and complementary activity events. 14 threads were found in Abekani from 2015 to 2018 (Table 6.4). The first thread came from an individual participant requesting further action on markup resellers which received many supportive comments. Less than one month later, the sponsoring firm announced the latest update of Abekani rules, particularly related to markup resellers. The firm re-stated the markup rule in its next thread. This thread was followed by supportive threads made by individual participants and received a positive response from the firm. In February 2018, the firm and collective individual participants worked closely together to identify markup resellers. The story ended with the names of markup resellers released and a statement from the sponsoring firm that these members had been removed from the community. All of these events contributed to the establishment of markup reseller rules in Abekani. None of the Abekani participants interviewed questioned these rules and they repeatedly emphasized them as very important and a key characteristic of Abekani:

“Selling bags at a higher price than the original is a fatal mistake”, Interviewee F.B

Table 6.4 Series of Events related to markup resellers in Abekani

Number	thread	Firm role	Category of the Event
A.1	A post made by an individual participant, 17 August 2015 <i>“Without insulting other members, I would like to ask you to maintain Abekani bag price... I heard that the owner of Abekani only took 15-20% Profit They took all the risks to produce the bag... then we sold the bag with 100% profit? ... please be respectful to the owner and others”</i>	As a Facilitator	Knowledge Sharing
A.2	A post made by firm, 17 February 2016 <i>“How to find a true buyer? A buyer who buys the bag for themselves, not to be re-sold with markup price?”</i>	As a Co-Creator	Product and Service Co-Design
A.3	A post made by an individual participant, 1 August 2016 <i>“We don’t like markup resellers. For everyone who wants to invite new members, please check them first.”</i> <i>“What if Abekani cancels markup reseller memberships?”</i> <i>“We will help you mbak Tunjung. We will voluntarily check the markup resellers. All you have to do is just to cancel their memberships”</i> (mbak tunjung = the owner of Abekani)	As a Facilitator	Ideas and Reviews
A.4	A post made by firm, 31 August 2016 <i>“Hi... for all members, don’t forget to read the latest rules (it has been revised on 30 August</i>	As a Co-Creator	Complementary Activities

Number	thread	Firm role	Category of the Event
	<i>2016), be careful, your membership may be canceled if you are a markup reseller."</i>		
A.5	A post made by the firm, 10 September 2016 <i>"We will cancel all bag orders made by markup resellers."</i>	As a Co-Creator	Complementary Activities
A.6	A post made by an individual participant, 19 June 2017 <i>"Dear friends, tonight a sad thing had just happened. There is a mark-up reseller found. A new bag model which has just sent to us has been sold outside of this group (with a very high price). Let's discuss how to identify these uninvited resellers".</i> The discussion is closed with a firm comment: <i>"Sisters, let's work together to eliminate mark-up resellers. If you find them, please report us, we will work on it by canceling their membership from this group".</i>	As a Facilitator	Ideas and Sharing
A.7	A post made by the individual participant, 3 July 2017 <i>"Welcome to our new sisters. We are here to make friendships. Don't be a markup reseller that is selfish."</i>	As a Facilitator	Knowledge Sharing
A.8	A post made by the firm, 12 July 2017 <i>"Dear friend, please be careful not to invite markup reseller into this group."</i>	As a Co-Creator	Complementary Activities
A.9	A post made by an individual participant, 14 September 2017 <i>"It has been established as the Abekani rule, that we may not re-sell our bag with the price higher than the original price. What about the buyer? Do we allow you to buy the bag from these resellers? No! From now on, stop buying Abekani from resellers. Be patient to have Abekani bags. You will have it when the time comes."</i>	As a Facilitator	Knowledge Sharing
A.10	A post made by an individual participant, 6 September 2017 <i>"I will have a nightmare tonight. I found a markup reseller has just sold Abelianne Bag."</i>	As a Facilitator	Knowledge Sharing
A.11	A post made by the firm, 19 February 2018 <i>"This group is made for Abekani lovers not markup resellers. Please anyone who had just received NL HB 007 Havana upload the bag picture here (to identify markup resellers)"</i>	As a Co-Creator	Complementary Activities
A.12	A post made by an individual participant, 22 February 2018 <i>"Your attention please, don't be a mark-up reseller. The punishment is poignant. Abekani is more than a bag. Please appreciate this. We,</i>	As a Facilitator	Knowledge Sharing

Number	thread	Firm role	Category of the Event
	<i>Abekani members, are working together to catch you and will not let you go..."</i>		
A.13	A post made by the firm, 22 February 2018 <i>"After a thorough investigation and helps from other members, we have canceled some of our friend membership because they are identified as markup resellers. Please if you find markup resellers, let us know."</i>	As a Co-Creator	Complementary Activities
A.14	A post made by the firm, 22 February 2018 <i>"IMPORTANT NEWS. After a long discussion, we have decided to publish markup reseller names. They are:</i> <ol style="list-style-type: none"> <i>1. Mrs. A</i> <i>2. Mrs. B</i> <i>3. Mrs. C</i> <i>4. Mrs. D</i> <i>They are no longer the member of Abekani"</i>	As a Co-Creator	Complementary Activities

Three threads related to markup resellers in Berliano were found (Table 6.5). All these threads were initiated by individual participants and received no response from the sponsoring firm. The threads proposed tools and ways to minimize markup resellers. The individual participants tried to establish rules about markup reselling. The interaction showed agreement about the markup reseller issue between individual participants but the agreement was not at the community level. Based on the interview results, the markup reseller rule does not translate well in Berliano. There were different opinions about markup resellers. One interviewee said it was acceptable to markup the price. Another interviewee said there were markup resellers expelled from the group, but could not identify from when and where she knew that story:

"There were two people that was the rumor said, I don't know whether it is true or not ... personally, I think it is up to the seller to set the price. But, it could be considered unethical or ethical, not really sure", Interviewee F.B

"In Berliano, markup price is not allowed", Interviewee K.B

"In Berliano, markup price is allowed, depending on the bag owners", Interviewee C.B

Table 6.5 Series of Events related to markup resellers in Berliano

Number	thread	Firm role	Category of the Event
B.1	A post made by an individual participant, 9 March 2018 <i>"I don't know what can I do to have Abekani bag unless buying from markup resellers.... Is it possible to kick markup resellers?"</i> This post received no response from the firm.	As a Facilitator	Ideas and Reviews

B.2	A post made by an individual participant, 14 July 2018 <i>"Dear admin, could you please provide us with Berliano price list. We need that to avoid mark-up resellers"</i> . This post received no response from the firm.	As a Facilitator	Ideas and Reviews
B.3	A post made by an individual participant, 1 August 2018 <i>"This bag is my wish list #originalprice, no markup."</i>	As a Facilitator	Self-Disclosure

Although the markup reseller issue did not seem to be the center of attention in Berliano (only three threads were found and no comments coming from the sponsoring firm), the indication of the importance of this issue could be detected through individual participants' comments in various other threads. Comments such as *"avoid high price," "looking for an affordable price," "be patient to get bags in affordable price"* appeared often. But at the same time, there were disagreements about how they view markup resellers. As stated by some interviewees, there is also the view that it was acceptable to pay more to own a new bag from a markup reseller because of the difficulties to own the new bag. *"It is all right for them to markup the price"*.

These selected events validate the model as follows:

- First, Table 6.4 and Table 6.5 show the role of firm and categories of events. The roles of the firm and categories of events are similar to those described in the model. The example of each category of events can also be found in Chapter Five.
- Second, the firm changed its role to orchestrate value co-creation in online communities. As illustrated by *Figure 6.2*, the firm changed from a facilitator to a co-creator and vice versa. Although *Figure 6.3* shows a series of events in Berliano where the firm did not change its role to a co-creator, this does not mean that Berliano never changed its roles. However, in these selected events, Berliano did not make any responses to the individual participants' request.

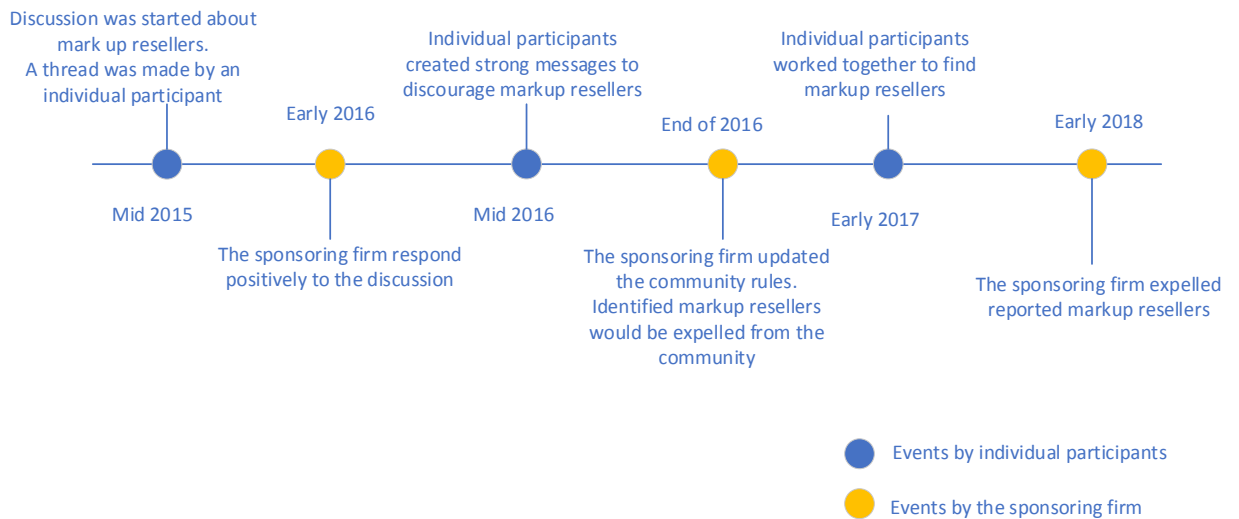


Figure 6.2 A Series of Markup Reseller Events in Abekani



Figure 6.3 A Series of Markup Reseller Events in Berliano

- Finally, the emergence of the three consensuses is summarized in Table 6.6. Consensus Making and Consensus Settlement mechanisms emerged in Abekani. Changes occurred in the community because of the enactment of these two mechanisms. One of the obvious changes was successful task division on the management of markup resellers. It became the individual participants' responsibility to detect markup resellers and the firm's to remove the identified markup resellers from the platform. The selection of new members also became individual participants' responsibility. If new members were markup resellers, people who invited them

to join were considered to have failed to embody Abekani's written and unwritten rules. All of these activities increased the participants' sense of community. Individual participants felt like the community belonged to them and they were obliged to take care of it. They also demonstrated more commitment to the community.

On the other hand, the discussion of markup resellers in Berliano received low responses from the sponsoring firm. Consensus Making about markup resellers did not emerge. Lack of Consensus Making to coordinate value co-creation conditioned by the sponsoring firm inhibits the online community to adapt to individual participants' needs. As a result, the community was not as vibrant as Abekani which exhibited more diverse activities. Activities in Berliano were dominated by the buying and selling bags.

Table 6.6 Empirical corroboration in Abekani and Berliano

Mechanism	Abekani	Berliano
Consensus Making	Thread A.1 (17 Aug 2015) and A.2 (1 Aug 2016) are individual participants' starter discussion about markup resellers. Thread A.3 (31 Aug 2016) is evidence that the consensus has been reached. Abekani formal rule has been updated.	Thread B.1, B.2, and B.3 are individual participants' expressions for the firm to do something about markup resellers. Consensus Making mechanism is not fully established.
Consensus Settlement	Thread A.4 to A.13 are actions made by individual participants and the sponsoring firm to settle the consensus about markup resellers.	Consensus Settlement to avoid markup resellers does not emerge in the data.
Changing Boundaries	Task division emerged. It is individual participants' responsibility to find markup resellers, and the sponsoring firm responsibility is to cancel identified markup resellers' membership. Individual participants collectively develop routines to check and identify markup resellers. Some individual participants' membership is canceled.	No rules initiated by individual participants were accommodated by the sponsoring firm. Individual participants focused only on buying and selling bags, no further interactions.

CHAPTER 7

CHAPTER 7 CONTRIBUTION AND CONCLUSION

This chapter summarizes this study, outlines its contributions to knowledge, theory and practice and makes suggestions for future research.

7.1 Summary of Study

While there is a lot of support in extant literature for taking advantage of customer engagements in online communities, gaining benefits from online communities remains challenging for various reasons. Some scholars argue that simply collecting ideas from firm sponsored online communities is not helpful, and firms need to understand how to deal with ideas and orchestrate the various actors involved (Dong & Wu 2015). Some others contend that online communities devoid of traditional structure mechanisms require different strategies (Lusch & Nambisan 2015). Consequently, information systems (IS) scholars are still examining challenges and constraints of these communities for value co-creation and which strategies are effective for firms in gaining benefit from online community potentials (Yan, Leidner & Benbya 2018).

Considering the significance of the value co-creation in online communities in the information systems field, this study aimed to examine firm-sponsored online communities to understand what shapes, enables, and constraints value co-creation. Amongst various types of sponsored online communities, this study focused on communities of interest. From a theoretical point of view, this thesis used ecosystem perspective in service dominant logic and critical realist sociomateriality to study two similar case studies in Indonesia: Abekani and Berliano. The philosophical paradigm of this study is critical realism and I combined the following research methodologies: a systematic literature review (SLR) and a multiple critical realist case study.

Data collection, from interviews and the text of online discussions, took eight months (February – October 2018) to be completed for both online communities. 572 threads and 28 interviews from Abekani and Berliano were collected and analyzed. Two methods were used to select threads : keywords and random observation. Interview respondents were selected using the snowball sampling method.

7.2 Findings and Contribution to Knowledge

Findings in this study can be categorized into three groups based on the research questions. First, to answer SRQ1, this study has revealed four types of online sponsored communities: Open Source

Communities, Communities of Interest, Commercial Communities, and Crowdsourcing. To differentiate these communities, they were categorized according to self-organization and the output of the community for the sponsoring firm (Figure 4.4). This study is a response to a recent call for scholars to develop a taxonomy of firm sponsored online communities based on the emergent or designed social interactions to inform new theories for this phenomena (Felin, Lakhani & Tushman 2017). The discussion of self-organization sheds light on the importance of social interactions in sponsoring online communities and particularly for the sponsoring firm to consider this for their strategy.

Second, to answer SRQ2 and SRQ3, this study discovered a comprehensive set of enablers and constraints based on the four actors identified in Chapter Two (Firm, Technology, Individual Participant, and Social). This study has developed a list of enablers and constraints in three stages. An initial list was made based on SLR findings. The initial list was then revised based on the content analysis findings and finally, the interview findings led to the final set of enablers and constraints. Enablers from the sponsoring Firm are Participatory Leadership, Reward System, and Transparency. Enablers from the Individual Participant are Motivation, Individual Characteristics, and Evaluation toward the Online Community. Enablers from Social are Similarity, Sense of Community, Equality, Trust, and Information Quality. Enablers from Technology are Association, Interactivity, Persistency, Flexibility, and Visibility. Like the enablers, constraints are sourced from the four actors. Constraints may appear as the result of the lack of enablers, such as low transparency, lack of a sense of community, and low information quality. Other constraints which do not arise from the absence of enablers are also found, such as Social Hierarchy under Social and Privacy under Technology.

The study then elaborated the dynamic nature of enablers and constraints and showed that some constraints may act as enablers or vice versa in different situations. Enablers and constraints are not always two sides of the same coin. They may occur to trigger each other or they may occur concurrently and be interpreted as both constraints and enablers. This finding has advanced our understanding of sociomateriality theory which is explained in the next subsection.

Finally, to answer SRQ4, this study has revealed events and mechanisms describing how value is co-created in communities of interest. The four actors, events and mechanisms were combined in a value co-creation ecosystem model that illustrates the value co-creation in communities of interest. Value co-creation is shaped through the firm's generative roles as a facilitator and co-creator and the fluidity of the online community. The sponsoring firm becomes a co-creator in the following events: Product and Service Co-design, Orders and Payments, Playful Activities, and Complementary Activities. Events for the firm role as a facilitator are: Ideas and Reviews, Self-Disclosure, Interpersonal Relationships,

Knowledge Sharing, Business Opportunity, and Sell, Buy and Barter. The three response mechanisms in the online community to maintain value co-creation are: Consensus Making, Consensus Settlement, and Changing Boundaries. The dynamic nature of the actors in communities of interest is apparent in Changing Boundaries, which arises from the Consensus Making and Consensus Settlement mechanisms. The model contributes to our understanding of the process of value co-creation that seems to have been overlooked in previous research (Monteiro 2018; Suseno, Laurell & Sick 2018).

These findings are important as they explain why similar case studies (Abekani and Berliano) produced different outcomes. The two case studies, which look similar, demonstrated a different level of variety in the activities within the communities. Events in Berliano were mostly dominated by the activities of buying, selling, and bartering bags, whereas events in Abekani showed more dynamic activities such as Self-Disclosure, Interpersonal Relationship, Knowledge Sharing, and Business Opportunity. Through the discovery of enablers and constraints, this study has demonstrated that Berliano has fewer enablers and more constraints than Abekani. This study also detected that the process of value co-creation in Berliano was limited by the lack of firm capacity to shift its role and develop consensus coming from individual participants as a way to coordinate value co-creation, thus technological and social changes that generate enablers or tackle constraints did not occur. Lack of consensus that coordinate each actor in the online community could be one of the reasons that inhibits the growth of various activities in the Berliano community.

7.3 Contribution to Theory

This research makes several noteworthy contributions to theories and methodology. Theories that have been expanded as the result of this study are service dominant logic and sociomateriality theories. This study particularly used the service ecosystem approach proposed by service dominant logic (Vargo & Lusch 2016) and the critical realist approach of sociomateriality (Leonardi 2013). The implications and contributions are briefly outlined below.

7.3.1 Service Dominant Logic

This study highlights the importance of firm roles and the navigation between those roles to orchestrate online communities. The empirical findings show the importance of the firm switching roles from facilitator to co-creator to condition the value co-creation mechanisms (Consensus Making and Consensus Settlement). Consensus Making and Consensus Settlement mechanisms produce understanding between individual participants and the sponsoring firm about how to comprehend and solve problems to ensure ecosystem survival (Lusch & Nambisan 2015). A firm sponsored online community is an organization where most individual participants come and go easily, while the sponsoring firm does not change. Thus, this study has provided empirical evidence for the firm's roles

as a co-creator and a facilitator (Grönroos 2011b) in value co-creation and applied Vargo and Lusch (2016) SDL foundational premises, particularly the ecosystem perspective, to clarify the firm roles in communities of interest.

The SDL concept is difficult to empirically assess because SDL works at a macro level with a minimum explanation of micro foundations, while real causal relations involve lower-level actions and interactions (Storbacka et al. 2016). This study has informed SDL concepts by focusing on the interactions and bridging some concepts of SDL from an abstract level to a more empirical level. This study brings the SDL concepts to the empirical level by combining the theory with critical realist sociomateriality which explains human and technology agency. Another call related to SDL has been to explicate how the coordination effort maintains value co-creation (Vargo & Lusch 2016). The study has answered this call by proposing two mechanisms that explain the coordination efforts between individuals and one mechanism that shows actors' responses in the service ecosystem. These mechanisms support resource integration in co-creating value between the sponsoring firm and individual participants and may lead to a greater inflow of resources to co-create value. At the same time, the mechanisms also demonstrate the dynamics of a service ecosystem. Thus, through this study we can see the value co-creation which is dynamic and non-isolated from various factors.

7.3.2 Sociomateriality

The critical realism approach to sociomateriality proposed by Leonardi (2011) sees constraints as the absence of affordances. These empirical studies show a paradoxical result, for example, the updated timeline in the Facebook platform (as explained in Chapter 5 about content analysis findings), which is enabling and constraining for members of the community. In this context, the affordances are not only enabling, which differs from the way some IS papers understand affordances. In a fluid organization, such as online communities where new people come and go, it is almost impossible to make sure everyone understands everything in the same way. They tend to have a variety of conflicting purposes that lead them to see things differently. Therefore, it is not surprising that the same affordances would be enabling on the one hand and constraining on the other. The continuous and simultaneous existence of enabling and constraining between individuals is not captured in the above sociomateriality model (Volkoff & Strong 2013).

The findings and discussion have revealed how individual participants of the community and the sponsoring firm change their understanding of technology and their social structure. Meanings are continually negotiated through repeated interactions and differences clarified. When a group of people perceives a similar meaning or use of the same subset of technology features, they can see similar enablers and constraints. They are also able to develop social arrangements to aid technology

constraints. This is when technology influences social structures. On the other hand, when a group of people shares similar objectives, they will see technology as a material that will help them achieve their goals. They use the technology creatively to aid their social processes and change the structure of the technology by re-combining the current technology with other technologies or by changing its meaning for the participants. This is when social activities influence technology structures and meanings. These processes continually morph the sociality and technology aspect of the online community. Thus, this study shows that Technology, as a material, grows organically together with socially shared meaning while simultaneously, Social grows organically together with a shared meaning of technology.

The sociomateriality phenomena are described using two types of changes. In sociomateriality theory, changes are described as sequences of iterative changes to social practice until the technology constrains it, followed by changes to the technology. While this model is important in sociomateriality to understand the existence of two types of agency, human and material, it does not capture constraints, affordances, changes in social, and changes in technology that occur subjectively in a fluid organization where participants are free to on and off. The dynamic of the service ecosystem and the existence of the proposed mechanisms suggest to us that enablers and constraints can be considered as strands of understanding of the sociomateriality phenomena occurring in each individual. Then, Consensus Making and Consensus Settlement allows adjustment of these personal understandings to produce a communal understanding of constraints and enablers. The strand metaphor offers us an explanation of various possibilities of combination (Volkoff & Strong 2013). This study has advanced our understanding of the strand metaphor of sociomateriality phenomena by introducing the mechanisms to adjust the independent strands from various individuals who gather in an online environment.

7.3.3 Research Methodology

Another contribution of this study is related to the research methodology used. This research has demonstrated a combination of multiple case study methodology with critical realism paradigm which is not many. Most studies using the critical realism paradigm were single case studies or conducted within the same organization (example: Dobson, Jackson & Gengatharen 2013; Leonardi 2011; Volkoff, Strong & Elmes 2007). This study enriched the examples of the multiple CR case study and developed an instrument to investigate more than one case study that can be adopted by other scholars. While the case study research acknowledges the multiple case study approach where the similar a research design is applied to more than one case study, the nature of a case study, which is its uniqueness and unpredictability, makes it almost impossible to apply exactly the same approach to different cases. The data collection methods explained in Chapter Three provided an example of how the data

collection preserved the uniqueness of each online community while maintaining comparability. This contributes to the discussion of empirical critical realism research.

7.4 Recommendations for Practitioners

This study offers some practical implications for designing new co-creation strategies and for improving co-creation practices by delineating the resources that can influence value co-creation in online communities and by explicating this in a list of enablers and constraints. The proposed value co-creation model helps firms to understand factors that are critical for the interactions between actors, and in turn for nurturing online co-creation communities.

First, one major practical achievement of the present study is the assessment of enablers and constraints associated value co-creation in online communities. This study produced a list of enablers and constraints consisting of themes and categories that can guide practitioners in evaluating a community of interest in enabling or constraining value co-creation. This list also helps sponsoring firms and developers to determine the functionality and supports needed to encourage their members to participate in value co-creation.

Second, the findings of the current study emphasize the important role of Sense of Community and Participatory Leadership and the less important role of Reward System in communities of interest. Figures 5.3 and 5.5 and Table 5.4 show evidence of the importance of Sense of Community in communities of interest. This finding aligns with Gebauer, Füller & Pezzeri (2013), who mention the importance of Sense of Community in maintaining value co-creation in online communities, and helps the sponsoring firm to determine the focus of their strategies in nurturing online communities. Further, it draws attention to system developers of the need to develop Sense of Community and improve firm Participatory Leadership as the central strategy in developing platforms for co-creation communities. Additionally, the interview findings have revealed that Reward System is no longer important to individual participants in deciding whether they want to stay or leave the community.

Third, the dynamic nature of enablers and constraints revealed from this study helps practitioners to be aware of the benefits and consequences of the strategies they may have chosen. The dynamic of enablers and constraints shows that every decision they make may strengthen the enablers or develop other constraints.

Fourth, the model raises firms' awareness that the firm is not the only actor that intervenes in the process of value co-creation. The model has illustrated that the sponsoring firm role as a co-creator or facilitator is more generative rather than pre-planned. It prompts the firm to stay aware of their individual participants and the social conditions in their online communities, and, in particular, to

develop appropriate plans to tackle challenges. The mechanisms revealed (Figure 6.1) help the sponsoring firms to make sense of the process of value co-creation and provide them with suggestions about which roles and events they can create to orchestrate value co-creation, nurture enablers, and tackle constraints.

7.5 Limitation

The findings described in this thesis are subject to some limitations. First, the research design (SLR, case study research, data collection, and critical realism) limited the study in a number of ways. For example, SLR results were limited to reviewed papers. This challenge was managed carefully and explained in the quality assessment section. However, this does not guarantee that the study is immune from the typical limitations of literature reviews (Boell & Cecez-Kecmanovic 2015). Another restriction is the generalizability of the critical realism approach (Tsang 2014; Wynn & Williams 2012). If readers are expecting generalizability in statistical terms, then they may find the results of this research are inadequate or unsatisfactory. Critical realism offers a different view of the meaning of generalizability (Wynn & Williams 2012). Accordingly, the generalizability produced in this study is more to the generalization to the theory which refers to generalizing from findings of a case study to theory (Tsang 2014).

Second, the case study approach limited the study to specific online communities. While the case setting limits the general applicability of the findings, the approach used provides a valuable opportunity to learn from sponsored online communities.

This study may also be exposed to another typical limitation of critical realism study, which is that the proposed mechanisms are tentative and subject to being refined or falsified in other study contexts (Williams & Karahanna 2013). This does not imply a discrediting of the proposed mechanisms of Consensus Making, Consensus Settlement, and Changing Boundaries. Rather, in open systems, if mechanisms present and are activated in other contexts, they may produce different outcomes. The proposed mechanisms were carefully identified from empirical evidence and are based on previous studies. These mechanisms are plausible enough to explain the outcome in the specific cases under scrutiny here.

7.6 Recommendation for Future Research

This study has uncovered several areas for future research, as follows:

- Further exploration of self-organization and its implication for other types of sponsored online communities was out of scope for this study because before this study carried out, self-organization was not considered as one of the differentiators in types of sponsored online

communities. As mentioned in Chapter Two (Literature Review), available taxonomies in sponsored online communities are limited because they are based on the input and output and overlook the social interaction of people in online communities. It will be helpful if we have more understanding of social interactions in online communities as this will liberate us from focusing on the output and tools used by the online communities and help us to compare and explain various phenomena of sponsored online communities (Felin, Lakhani & Tushman (2017).

- As mentioned in the Introduction (Chapter One), while I derived an initial list of enablers and constraints from various literature, I completed the list using evidence from communities of interest. As a result, Reward System was found to be less important than expected for individual participants in communities of interest. However, it should be noted that different results may be obtained in different types of communities. Therefore, further studies to various types of online communities will provide us with a better knowledge about this.
- During this study, I detected potential relationships between each enabler theme and each constraint theme. However, it was beyond the scope of this study to investigate this relationship in detail. Further investigation in this area will provide a better understanding of the value co-creation in sponsored online communities and may produce knowledge about nurturing enablers and undertaking constraints. For example, Visibility in Technology may be related to the Equality in Social and Transparency provided by the sponsoring firm. Social Hierarchy may also introduce inequality into the community.
- I have revealed the emergence of local groups that support a large online community. Further research can be directed towards understanding the importance and the impact of local groups in online communities: Helped by technology, how may these local groups influence the larger community. How might the sponsoring firm take advantage of these local groups? What support could the sponsoring firm provide towards the development of local groups that bring positive impacts for the sponsoring firm?
- Through this study, I have realized the importance of the sponsoring firm role in a community of interest. I have revealed their roles as facilitator and co-creator. Further investigation could be directed to the analysis of when a firm should change its role. How much facilitation should be provided by the sponsoring firm? Under which conditions does the change of role grow the online community?
- The examination of the process of value co-creation has provided an initial explanation of the form of thick social interaction (Felin, Lakhani & Tushman 2017) where common goals, task interdependence, and careful coordination and collaboration emerge. The value co-creation

ecosystem model demonstrates that the composition and goals of sponsored online communities are not given, but are negotiated. Further exploration is needed to explain when and how the bargaining process occurs and common understandings and goals arise?

- Another recommendation for future study is the clarification of the nature of individual enabler and constraint themes, which in turn will provide a better understanding of each enabler and constraint theme and its various aspects. For example, the nature of Sense of Community is already known as an important enabler for improving participation in online communities (Gibbs, Kim & Ki 2019; Kim et al. 2008). While some studies found that in online communities that are based on competition, Sense of Community is difficult to develop and may not be that important (Hall & Graham 2004), studies of other online communities have found that Sense of Community is important in those communities (Gebauer, Füller & Pezzeri 2013). This thesis determined Sense of Community as the most dominant enabler found under the Social actor (Table 5.4). Future studies could bring more evidence to bear on how important sense of community is in online communities and explore when it can be developed and becomes essential to an online community.
- Future studies could also be directed at exploring innovation in online communities. The findings show that Individual Participant in Abekani produces more ideas than in Berliano (21% of activities as a facilitator is Idea and Reviews in Abekani and 13% in Berliano). This study also shows that Abekani develops more narratives than Berliano which, as Brown & Duguid (1991) suggest, foster innovation. This prompts the question as to whether all enablers found in Abekani have an influence on narrative development and eventually foster innovation (Nambisan et al. 2017). Further, which narratives usually occurring in online communities foster innovation? Are all of them focused on the problem-solution paradigm? If not, then why and how do those various narratives affect innovation?
- Further studies could tackle the limitations of this study as mentioned in the above subsection: for example, considering the firm's perspective to complete the model; using more case studies; testing the proposed mechanisms in various online community contexts: studying online communities that use different platforms, and using different approaches to validate the proposed mechanisms, such as quantitative data analysis. The content analysis of this study revealed that Abekani generated more ideas than Berliano. However, it did not develop a clear connection between the output of the online community with the enablers and constraints. Further investigation with a focus on the connection between enablers and constraints with the output of online communities would complete the framework.

- Finally, it is recommended that future studies investigate the implication of specific platforms (other than Facebook) on the enablers, constraints, and mechanisms in online co-creation communities. Having more knowledge of online co-creation communities from a platform perspective will help us understand the impact of a particular technology on an online community and complete our understanding of its role the in online community phenomena.

CHAPTER 8 REFERENCES

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APPENDIX I Interviews Protocol

Hello, my name is Diah Priharsari. I am a Ph.D student at UTS. Thank you for taking time to talk with me about your participation in the [name of community] online community. This research is part of my dissertation named "VALUE CREATION IN ONLINE CO-CREATION COMMUNITIES: ENABLER, CONSTRAINER, AND SHAPER". Through this project, we are hoping to deepen and refine knowledge related to the value creation in online communities. In particular, we would like to learn more about the ways in which online communities provide value to their members. It will help any organizations to design an online community that will deliver value to the members. The interview is estimated to be completed in 45 - 60 minutes.

Introduction

Before we start, a few disclosures:

Your participation in this study is voluntary. You have the right to be a part of this study, to choose not to participate or to stop participating at any time or not to answer some questions.

All information collected during the study period will be kept strictly. No publications or reports from this project will include identifying information on any participant. The findings of this study will be published in conference paper, thesis, and journal article.

Before we start, I would like to ask your permission to have a complete record of our discussion. Is that okay with you?

In this interview, I will ask you questions aimed at gaining a better understanding your overall experience of participation in the community. There is no wrong or right questions. I will use a note to help me remembering what you have said and as a tool for further discussion. Do you have any questions before we begin?

Questions

1. What is your position in [name of the online community] Online Group? How long have you been the member of [name of the online community]? Could you please tell me what do you think about [name of the online community]? What are your activities in this online community?
2. What activities do this community have?
3. What does the firm do in this online community?
4. What do you get from the community? What does make it valuable for you?
5. How does this community enable you to get what you wish? I mean, what in this community helps you to get what you want?

6. What are the things can limit what you can from the online community? Another words, what barriers or issues have you experienced?
7. What else would you like to share about your experience of being a member of this community?

Questions in Bahasa Indonesia

1. Apa posisi anda di [nama grup] Online Group? Sudah berapa lama menjadi anggota [nama grup]? Bagaimana menurut anda [nama grup]? Aktifitas apa saja yang anda lakukan di komunitas ini?
2. Apa saja aktifitas di komunitas ini?
3. Apa yang dilakukan perusahaan di komunitas ini?
4. Apa yang anda dapat dari komunitas? Apa yang membuat komunitas ini berharga?
5. Bagaimana [nama grup] dapat memberikan apa yang anda harapkan?
6. Apa yang menjadi penghambat anda untuk mendapatkan apa yang anda harapkan dari komunitas online ini?
7. Adakah hal lain yang ingin anda bagi terkait pengalaman menjadi anggota [nama grup]?

The close

Thank you. Do you have friends or colleagues who you would like to recommend to interview?

This is the end of interview. Thank you very much for your participation.

APPENDIX II Excerpt Examples for Each Enabler Theme

Theme	Enabler	Definition/ Explanation	Abekani		Berliano	
			Excerpt	Explanation	Excerpt	Explanation
Firm						
Participatory Leaderships	Shared decision making	actively engaging community members in manageme nt and decision making	<p><i>"We plan to produce nine bag designs. Four designs are coming from the winner of our last year bag design competition. We need your help to decide on the other five designs. Please vote which design you would like us to produce."</i></p> <p><i>"all rules come from members"</i></p>	<p>At the beginning of 2018, Abekani asked their members to choose which bag designs they would like to order. The selected bags will be used to plan the production for a whole year.</p> <p>This is a thread made by admin elaborating the source of rules in Abekani.</p>	<p><i>"Dear belovers, I am sorry I have to post this thread. As a response to your concern, we would like to confirm that you may send orders to more than two bag sales."</i></p>	The firm posts a response to individual participants' request to be able to send orders to more than one bag at the same time. This post receives positive feedbacks its members.
	Engage and encourage activities of value co- creation	Develop a form of play rather than intended seriously, or want to have a good time and not feeling serious	<p><i>"Challenge day. We want to know what your husband's reply is if you ask him to buy you Abekani bags. The winner will get a free bag."</i></p>	Sometimes Abekani posts fun games to have fun with members. This is an SMS challenge.	<p><i>"Guess what models are these? The winner will get a surprise (picture of 3 Berliano bags)"</i></p>	Sometimes Berliano posts fun games to have fun with members. This is a guess what challenge.
	Shared tasks *	actively sharing responsibili	<p><i>"We are not going to interfere with the collective bag order"</i></p>	The collective bag order in Abekani is a unique process. The collective	Not found	No activities related to sharing tasks is found in Berliano

		ties in their business process	<i>process. It is fully coordinators' responsibility to manage and arrange the collective bag order."</i>	bag order is managed by a coordinator selected by members, and it is outside Abekani internal management responsibility. Abekani only receives the order and send the bag to the coordinator. The coordinator will arrange the next step.		
	formal and informal communication	The development of various ways to engage members in formal and informal communications.	Individual participant comment: <i>"love you"</i> Replied by the owner: <i>"love you too mak Jawir"</i> (note: <i>mak jawir</i> is the participant nick name. In Indonesia, we call a person by nickname to show our close relationship with them. This is also a sign of informal communication)	This is a short conversation between the owner and an individual participant. This type of conversation is easily found in Abekani online community.	<i>"Good evening beautiful ladies, I am sorry to disturb your night rest. I am writing this to remind you all that the the order bag group are only for members who have to confirm their orders. Please be cooperative."</i> (note: the firm choose "please" by using the word "Njih" which is a formal word to say "please". In Indonesia, we usually use that to older people)	It is not easy to find informal conversations between the firm and the individual participants. This is an example of communication developed by the firm.
	Equal partnership *	Tendency and mindset to consider that all members of	<i>"From now on, please don't call me the owner of this bag, because to me, you are all the owners of this brand"</i> (note: you	This is a comment from the Abekani owner in a thread to reject to be called "boss" or "leader" in the community.	Not found	No comments express the mindset to consider participant as equal partners.

		the community are equally important.	<i>refer to individual participants).</i>			
Transparency	Business transparency *	Firm act transparently with customers about their internal matters such; for example, how they manage the supply chain, their financial reports, their problems, etc.	<i>"Dear Abekanian Lovers, we proudly announce you that we have already paid your tax to the government for this month (June), 10%, idr. 118,139,405"</i>	The firm shares their financial report to members. This post receives so many positive responses. The firm also shares its suppliers (including contact numbers so that members can identify the source of Abekani products).	Not found	No posts related to Berliano internal management and supply chain.
	Outcome transparency	Firm keeping customers informed about how their inputs and ideas would be used	<i>"The winner of bag competition are: NISCALA by ... SUMI by ... NIKA by ... SHAFUN by ..."</i>	It is the winner announcement of a bag competition in 2017.	<i>"The winner of the photo competition will be announced next week."</i>	It is the winner announcement of a photo competition in 2017.

	Customer role transparency	Firm's transparency in communicating what role or roles members need to take for particular calls	<p><i>"Cover design contest:</i></p> <p><i>6. one member may submit more than one designs</i></p> <p><i>7. ... the winner is selected based on members' vote"</i></p>	The participant roles are mostly to submit an idea and vote for the best designs.	<i>"Please help us to find traditional Indonesian patterns to be applied to our leather"</i>	The participant is to inform patterns to be printed on leathers.
	Enhance innovation transparency (in relation to innovation)	the clarity of specific innovation processes of the processes, who is involved, the time sequence, and how the processes relate to the company's other business processes	<i>"Niscala model (the winner of bag competition) is still under revision. We are waiting for the designer to confirm our sample. You can order this bag this year (2018), soon after we finish the revision."</i>	This post shows the finalization process of a bag competition held in 2017. This post also indicates when the bag can be ordered.	Not found	No information is found
	Transparency	Refers to rules and regulations	<i>"The firm will select three best designs, the winner is</i>	This is the regulation of how the winners are selected.	<i>"The winner will be selected by the firm"</i>	This is the regulation of how the winners are selected.

	participation policy	of receiving, reserving and the implementation Customers' ideas.	<i>selected based on members' vote."</i>			
Reward system	Monetary reward	Refers to the incentives that the provider gives to encourage customer's participation in value co-creation.	<i>"The winner will get free Cbag Mini Kulo Non Flap."</i>	The winner of the cover design gets a free bag.	<i>"Guess what models are these? (picture of 3 Berliano bags). The winner will get a surprise gift "</i>	Berliano gives surprise to the winner
Individual						
Motivation	Motivation	Reasons and benefits that the individual receives	<i>"I love your bags" "we will continue to keep this group until we old."</i>	To have bags is the most obvious motivation. However, then friendships also become individual participants' motivation.	<i>"We always wait for your products."</i>	To have the bag is the most obvious motivation.
Personal attributes		Quality or characteristic of an individual participant such as interest,	<i>"Dear ms. Tunjung, I want to join Lolita. It is too difficult for me to use this technology. I can't compete with younger members"</i>	One of a famous group in Abekani is Lolita. Lolita is a special group made by Abekani for individual participants with age > 50 years. This group is special because different rules applied to them. The rules	not found	Other than interest to bags, it is difficult to know other attributes

		knowledge, and skills.		are modified to fit into their skills and age.		
Personal evaluation		Refers to participant evaluation of interaction experience which includes previous experiences , affective evaluation, and the assessment of what is gained and what is given up.	<i>"Different from other bags which we can buy easily, to have Abekani bags (needs) physical works, brain works (and also) money. Those things still don't guarantee you to have the bag.wkwkwkwkw (laugh). This process is super fun."</i>	This is an example of a post expressing the positive evaluation of the online community	<i>"I love this admin."</i>	This is an example of an appreciation of the firm
Social						
Sense of Community	A shared sense of responsibility	A felt sense of duty or obligation to the community as a whole as well as to its members, feel a sense of responsibility	<i>"This quiz is for members who were born at 28 Oktober."</i> <i>"please to who were not born at 28 October, delete your participation."</i> <i>"please read the rules."</i>	These are comments made by an individual member in a quiz by the firm. These members repetitively directed, informed, and reminded others to obey quiz rules during the quiz. There are a lot of informative comments from individual members to help the firm	<i>"If you disagree to current rules, you can just leave this group. That is so much better than keep on complaining.... I think current rules are acceptable and fair enough...Please don't make things difficult for the firm. Let them concentrate on the production."</i>	This is a post made by a member to remind others. She felt that the members of this community should accept the rules and fewer complaints. She convinced others that the proposed rule made sense.


		ty to assist others in the collective, a shared responsibility to make sure rules are obeyed. In this context, others are including the individual participants as well as the firm.		manage activities within the online community		
	Shared consciousness and rituals	Shared rituals, traditions, codes, norms, identity.	<i>"My first bag from a fairy godmother. My beloved bag" – shared codes.</i>	The fairy godmother is a name for a person who is willing to sell their abekani bags to other members below the original price. A fairy godmother is taken from a Disney character who makes dreams come true.	<i>"your days with Berliano: Monday is wishlist day... Tuesday is barter day..."</i>	That is routine schedules for Berliano members. The routines are the foundation to be rituals and traditions.
	Social bonds	mutual caring, reciprocal take and give, feeling	<i>"We are more than bag lovers; we are sisters."</i>	A post from the online community made by a member. This posting is about an invitation to have an offline meeting.	Not found	Activities to increase social bonds are not found

		of one family				
Similarity	Similarity	common experiences, shared vision, and shared background knowledge	<i>"We come together because we love bags."</i>	An excerpt from poetry sent by one member	<i>"that is so pretty... That is in my wishlist."</i>	Members gather in this community because of their passion for leather bags.
Equality	Equality	Perceived fairness and norm of reciprocity	<i>"I would like to apologize for my mistake that I've done in the last order. I have discussed this with the owner of Abekani, and together we have decided that 3047 participants who suffer from my mistake are allowed to be included into pre-order safine 2018."</i>	This is a comment made by the firm after making a mistake.	<i>"... I think current rules are acceptable and fair enough."</i>	An opinion from one member that gets support comments from other individual participants.
Content quality	Completeness *)	Usefulness and balance between personal and research credibility. In this context, the information quality relates to	<i>"Ask for detail information about the sale bag to avoid disappointment. Please be true about your bag condition. Don't hide important information."</i>	These tips are from a member about what to do if they are going to buy bags. This shows the true and complete information of the bag is important.	Not found	It seems that members don't put attention to the completeness of information because not many members sell their bags here.

		the completeness of information				
Technology						
Association (The ability to establish connections among members.)	Add friend	Add to friends list	<i>"please add me."</i>	This an example of a request from a member who wants to be added to friends list on Facebook	<i>"please add me."</i>	This an example of a request from a member who wants to be added to friends list on Facebook
	join group	Groups are created to manage orders, develop connections	<i>"Who wants to join Abekanian Jabar Bersatu (AJB) please comment."</i>	Abekani creates groups to manage orders. There are two kinds of groups: 1) group to pay bags, 2) group to manage bag orders, it is called area group. This is an example of a post to ask a member to join area group.	<i>"you need to join the group to pay the bag."</i>	The firm creates groups based on the order name to manage bag orders and connect its members
Interactivity (The ability to enable members to come together in different ways such as collective or asynchronous contribution)	Post	Members and firm post message not only to share information but also to open order or to post games	All examples here identify the technology ability to develop interactivity between members in the online community.			

by individuals.)						
	Polling	Polling is used to plan production and also play games	<i>"We need your help to decide for other five designs. Please vote which design you would like us to produce."</i>	Abekani uses pooling to plan its production for a whole year	Not found	Did not use this feature
	Mention	Mention is usually used to let the mentioned person knows a particular information	Member A: <i>"sis B..."</i> Member B: <i>"thank you"</i>	This is an example of how an individual member informs other members about a particular post.	Member C: <i>"D"</i> Member D: <i>"done."</i>	Similar to Abekani, their members share information by using mention feature
	Live recording	A live recording is used to share offline gathering.	<i>"It felt like I was there although I only saw from the live recording. Hopefully, I can join other offline meetings in the future"</i>	This is a post from an individual participant who could not join an offline meeting.	Not found	Did not use this feature.
	Comments	Comments are used to share information, ideas, supportive comments. Comments are also used to order bags	<i>"Confirm black crack 38."</i>	This is an example of a comment to order bags	Examples here partly come from comments	Berliano does not use the comment feature to order bags. But members use comments to share information, ideas, etc. as shown in this table.



Persistency (The ability to provide information in the same form.)	Announcement	Firms used this to put rules and important information. When information is listed in this folder, it always appears on top of the front community page.	Not found	Abekani does not use this feature on its wall	<i>"your days with Berliano: Monday is wishlist day... Tuesday is barter day..."</i>	These routine schedules are displayed in the announcement section,
	Files	The firm used this to put important files	<i>"this is the link of important files:"</i>	Important files such as the list of members, reviews, etc. are listed in a post, and the files are kept under files folder	Not found	Berliano does not use this feature on its wall
Visibility (The ability to locate information related to knowledge, behavior, preferences, and communication network.)	Photo albums	The firm uses this to keep photo based on events (games, offline meetings, etc.)	<i>"the design should be uploaded to https://www.facebook.com/media/set."</i>	This is an example of a cover design competition rule.	<i>"please upload the photo to the album."</i>	This is a comment made by the firm to remind individual members who put the photo for photo competition in the comment section.

	Hashtag and topic feature	A hashtag is used to identify posts	<p><i>"#barter Lb017 grey to lucy."</i></p>  <p>Popular topic:</p> <ol style="list-style-type: none"> 1. Charity for Lombok 2. POJ6000 (bag order 6000) 3. Love for Lombok 4. Barter 5. Join Abekani Area 6. Call for bag order 6000 	This is a post made by an individual participant. This post is made on barter day. A member put #barter in the post. Abekani utilized “#” more often than Berliano	<i>"#myberliano I collect this one by one ..."</i>	This is a post showing a set of Berliano bags. A member used #myberliano to mark her post. However no popular post based on topic reported by Facebook.
	Updated timeline by adding comments	Comments are used to keep the post on appearing on the first page of members' timeline	<i>"up."</i>	This comment is made to re-position the post so that the post appears on the first page of individual participants' time line.	<i>"up"</i>	This comment is made to re-position the post so that the post appears on the first page of individual participants' time line.
Flexibility *) (the ability to activate and	Turn on and off comments	Turn on and off comments	<i>"I am going to turn off comments for this thread"</i>	This is a comment by a poster to close a thread.	<i>"I am going to turn off this thread"</i>	This is a comment made by a poster to close a thread.

de-activate features in the platform and to chose communication channels)		are used to close orders, respect others, show decision has been made so that no further discussion is needed, avoid conflicts.	<i>because today is the time (the order time)"</i>			
	set privileged	Sometimes individual participants are set to be administrators to manage games or orders	<i>"we allow one coordinator to be an administrator for one day to manage orders."</i>	Abekani allows one coordinator to be the temporary administrator to manage orders.	Not found	It is not part of Berliano rules.
	Personal chat	Personal chat is used to develop a connection in privates	<i>"if you find members who sell their bag above original price, please let us know by personal chat."</i>	This is a post from the firm. The firm encourages its members to report members who against abekani rules.	<i>"Hi, can I see the joveline (a bag model)? I have sidomulyo (a bag model), Please send me a personal message."</i>	Buy and sell rules in Berliano are not clear. Most of Berliano members do not like prohibit their member to sell their Berliano second bag higher than the original price. However, at the same time, the firm gives the

						impression that it is not their right to control the price in the market. Therefore most of their members sell their bag without a price. The further transaction is done through personal chat.
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APPENDIX III Threads About Member Acceptance Process in Abekani

Thread	Translation	Explanation
 <p>Comments A: "dilemma... saingan tambah banyak"</p> <p>Comment B: "menurut saya tidak perlu, jika cinta akan mencari jalan sendiri"</p> <p>Comment C: "member makin banyak... tas gak dapat-dapat"</p> <p>Comment D: "lebih mudah jika bisa dikontrol oleh area"</p> <p>Comment E: "kalo mau gabung di grup AL minta diinvite sm teman ... yg jd member AL"</p>	<p>Thread made by the firm, 13 Dec 2016 <i>Good morning admins and Abekani(an) Lover members,</i></p> <p><i>We received so many questions regarding the order procedures. They think that we are arrogant because we complicated the order process. Some were mad at us. These disappointments probably occur because they have no friends that will help them to be accepted in this community.</i></p> <p><i>Could I ask your permission to allow me to post how to join Abekani online community in Facebook fanpage?</i></p> <p>Comment A: <i>"I don't know... the competition is getting harder"</i></p> <p>Comment B: <i>"I don't think that it is necessary. If they really want it, they will find a way"</i></p> <p>Comment C: <i>"more members.... More difficult to get a bag"</i></p> <p>Comment D: <i>"it is easier if it (new member registration) is controlled by a responsible person in this group"</i></p> <p>Comment E: <i>"if they want to be abekani members, they should be invited by one of our members"</i></p>	<p>This thread was made by Tunjung Abekani (the owner of Abekani). She asked members' approval to officially announce how to be Abekani members on their facebook fans page. The thread received 317 comments. Most of the comments refused the owner request. The main reason is because this increases the competition to get Abekani bags. Another reason is that because they don't like markup resellers to be members of Abekani. However, they offered a member registration that includes face to face selection (the new member should be nominated by other members who know her). The firm accepted these rules.</p>
	<p>Thread made by the firm, 4 July 2017 <i>"woow reach up to 1000 in one day.</i></p> <p><i>....</i></p> <p><i>It is our responsibility to educate new members....</i></p> <p><i>The message that I want to share is that you have to be careful, make sure new members are friends, not sellers, not haters... If you don't know her well, it is better not to invite her (multiple cry emoticon)</i></p>	<p>This thread is about the new member registration in 2017. There were new 1000 members. Here, the firm stressed the importance of careful new member selection. New members should be aware of Abekani rules and known personally by other members.</p>

	<p>Thread made by an individual participant, 3 July 2017</p> <p>"..... <i>Good morning, Wow, 16.540 members, amazing</i> <i>At first, I just wanted to share this to my new friends who had been accepted in this group. But then I think this can be useful for all new members. Admin, please allow me to post this. (double smile emoticon)</i> <i>Popular terms in Abekani:</i> <i>AL = abekanian lovers</i> <i>NL = the bag order, every Friday</i> <i>..."</i></p>	<p>This thread was made to share current knowledge to new members.</p>
	<p>Thread made by an individual participant, 3 July 2017</p> <p>"<i>Good afternoon (smile emoticon). Welcome to our new members (love emoticon). Please don't be hesitate to ask or read our rules (smile emoticon). If you don't want to ask in public, you can ask personally to your Abekani friends through inbox, whatsapp..."</i></p>	<p>This thread was made to welcome new members and remind them of Abekani rules.</p>
	<p>Thread made by the firm, 8 May 2018</p> <p>"<i>...We are opening new member registration.</i> <i>... don't forget our rules, new members should be known personally by other members and invited by area coordinator"</i></p>	<p>This is the new member registration announcement in 2018. As agreed before, the new members should be nominated by previous members to make sure that she is a real person.</p>
	<p>Thread made by firm, 31 July 2018</p> <p>"<i>who wants to join Abekanian Lolita, please comment. Sister XX and mom YY, please help"</i></p>	<p>This thread was made by firm to invite new members to area groups. This thread received supportive comments from other participants inviting and welcoming new members to their area group.</p>
	<p>Thread made by an individual participant, 2 August 2018</p> <p>"<i>welcome to new members of Abekanian Lovers. Have you</i></p>	<p>This thread was made to welcome new members and reminded them of Abekani rules.</p>

	<i>scanned the conversation in this group? Hopefully you have read all rules. Reading guidelines is highly recommended before you start your journey”</i>	
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APPENDIX IV Selected Papers for SLR

No	Authors	Title	Year	Journal
1	Zhang M., Guo L., Hu M., Liu W.	Influence of customer engagement with company social networks on stickiness: Mediating effect of customer value creation	2017	International Journal of Information Management
2	Hasan N., Rahman A.A.	Ranking the factors that impact customers online participation in value co-creation in service sector using analytic hierarchy process	2017	International Journal of Information Systems in the Service Sector
3	Fernandes T., Remelhe P.	How to engage customers in co-creation: customers' motivations for collaborative innovation	2016	Journal of Strategic Marketing
4	Faraj S., von Krogh G., Monteiro E., Lakhani K.R.	Online community as space for knowledge flows	2016	Information Systems Research
5	Braun C., Batt V., Bruhn M., Hadwich K.	Differentiating customer engaging behavior by targeted benefits – an empirical study	2016	Journal of Consumer Marketing
6	Zhao Y., Zhu Q.	Conceptualizing task affordance in online crowdsourcing context	2016	Online Information Review
7	Harrison T., Waite K.	Impact of co-production on consumer perception of empowerment	2015	Service Industries Journal
8	Zhang H., Lu Y., Wang B., Wu S.	The impacts of technological environments and co-creation experiences on customer participation	2015	Information and Management
9	Smaliukiene R., Chi-Shiun L., Sizovaite I.	Consumer value co-creation in online business: the case of global travel services	2015	Journal of Business Economics and Management
10	Zhao J., Wang T., Fan X.	Patient value co-creation in online health communities: Social identity effects on customer knowledge contributions and membership continuance intentions in online health communities	2015	Journal of Service Management
11	Booth S.E., Kellogg S.B.	Value creation in online communities for educators	2015	British Journal of Educational Technology
12	Stewart Loane S., Webster C.M., D'Alessandro S.	Identifying Consumer Value Co-created through Social Support within Online Health Communities	2015	Journal of Macromarketing

No	Authors	Title	Year	Journal
13	Constantinides E., Brünink L.A., Lorenzo-Romero C.	Customer motives and benefits for participating in online co-creation activities	2015	International Journal of Internet Marketing and Advertising
14	Elsharnouby T.H., Mahrous A.A.	Customer participation in online co-creation experience: the role of e-service quality	2015	Journal of Research in Interactive Marketing
15	Zhang T., Kandampully J., Bilgihan A.	Motivations for customer engagement in online co-innovation communities (OCCs): A conceptual framework	2015	Journal of Hospitality and Tourism Technology
16	Hsieh P.-L.	Encounters in an Online Brand Community: Development and Validation of a Metric for Value Co-Creation by Customers	2015	Cyberpsychology, Behavior, and Social Networking
17	Blasco-Arcas L., Hernandez-Ortega B., Jimenez-Martinez J.	The online purchase as a context for co-creating experiences. Drivers of and consequences for customer behavior	2014	Service Industries Journal
18	Kang J.-Y.M.	Repurchase loyalty for customer social co-creation e-marketplaces	2014	Journal of Fashion Marketing and Management
19	Roberts D., Hughes M., Kertbo K.	Exploring consumers' motivations to engage in innovation through co-creation activities	2014	European Journal of Marketing
20	Ellis S.	A history of collaboration, a future in crowdsourcing: Positive impacts of cooperation on british librarianship	2014	Libri
21	Gebauer J., Füller J., Pezzeri R.	The dark and the bright side of co-creation: Triggers of member behavior in online innovation communities	2013	Journal of Business Research
22	Healy J.C., McDonagh P.	Consumer roles in brand culture and value co-creation in virtual communities	2013	Journal of Business Research
23	Huertas M.K.Z., Veludo-de-Oliveira T.M., Leite M.G.	Internet Tool Use and Virtual Co-Creation in the Brazilian Construction Industry: Organizational Practices and Consumers' Personal Values	2013	Latin American Business Review
24	Ind N., Iglesias O., Schultz M.	Building brands together: Emergence and outcomes of co-creation	2013	California Management Review
25	Ind N., Coates N.	The meanings of co-creation	2013	European Business Review
26	Brodie R.J., Ilic A., Juric B., Hollebeek L.	Consumer engagement in a virtual brand community: An exploratory analysis	2013	Journal of Business Research
27	Seraj M.	We Create, We Connect, We Respect, Therefore We Are: Intellectual, Social, and Cultural Value in Online Communities	2012	Journal of Interactive Marketing

No	Authors	Title	Year	Journal
28	Chen L., Marsden J., Zhang Z.	Theory and analysis of company-sponsored value co-creation	2012	Journal of Management Information Systems
29	Laroche M., Habibi M.R., Richard M.-O., Sankaranarayanan R.	The effects of social media based brand communities on brand community markers, value creation practices, brand trust and brand loyalty	2012	Computers in Human Behavior
30	Pongsakornrunsilp S., Schroeder J.E.	Understanding value co-creation in a co-consuming brand community	2011	Marketing Theory
31	Gummerus J.	E-services as resources in customer value creation: A service logic approach	2010	Managing Service Quality
32	Schaedel U., Clement M.	Managing the online crowd: Motivations for engagement in user-generated content	2010	Journal of Media Business Studies
33	Füller J., Mühlbacher H., Matzler K., Jawecki G.	Consumer empowerment through internet-based co-creation	2009	Journal of Management Information Systems
34	Misra R., Mukherjee A., Peterson R.	Value creation in virtual communities: The case of a healthcare web site	2008	International Journal of Pharmaceutical and Healthcare Marketing
35	Hall H., Graham D.	Creation and recreation: Motivating collaboration to generate knowledge capital in online communities	2004	International Journal of Information Management
36	Piller, F. T., Vossen, A. & Ihl, C.	From social media to social product development: the impact of social media on co-creation of innovation	2012	Die Unternehmung
37	Zhao, Y. and Zhu, Q.	Evaluation on crowdsourcing research: current status and future direction	2014	Information Systems Frontiers
38	Ståhlbröst, A., & Bergvall-Kåreborn, B.	Exploring users' motivation in innovation communities	2011	International Journal of Entrepreneurship and Innovation Management
39	S. Nambisan, P. Nambisan	How to profit from a better "virtual customer environment"	2008	MIT. Sloan Management Review
40	Nambisan, S., & Baron, R.	Interactions in virtual customer environments: Implications for products support and virtual customer relationship management	2007	Journal of Interactive Marketing
41	Füller, J	Refining virtual co-creation from a consumer perspective	2010	California Management Review
42	Cheung, M. F. Y. and W. M. To	Service co-creation in social media: An extension of the theory of planned behavior	2017	Computers in Human Behavior

No	Authors	Title	Year	Journal
43	Wu, S. and Fang, W.	The effect of consumer-to-consumer interactions on idea generation in virtual brand community relationships	2010	Technovation
44	Laing, Angus, Debbie Keeling, and Terry Newholm	Virtual Communities Come of Age: Parallel Service, Value and Propositions Offered in Communal Online Space	2011	Journal of Marketing Management
45	Füller, J.	Why consumers engage in virtual new product developments initiated by producers	2006	Advances in Consumer Research
46	Nakatsu, R.T., Grossman, E.B. and Iacovou, C.L.	A taxonomy of crowdsourcing based on task complexity	2014	Journal of Information Science
47	Jeppesen, L.B. and Frederiksen, L.	Why do users contribute to firm-hosted user communities? The case of computer-controlled music instruments	2006	Organization Science
48	Wiertz, C., & deRuyter, K.	Beyond the call of duty: Why customers contribute to firm hosted commercial online communities	2007	Organization Studies
49	Amit Kumar Agrawal, Zillur Rahman	CCV Scale: Development and Validation of Customer Co-Created Value Scale in E-Services	2017	Current Psychology
50	Kohler, T., Fueller, J., Matzler, K., & Stieger, D.	Co-creation in virtual worlds: The design of the user experience	2011	Management Information Systems Quarterly
51	Zwass, V.	Co-creation: Toward a taxonomy and an integrated research perspective	2010	International Journal of Electronic Commerce
52	Bugshan, H.	Co-innovation: The role of online communities	2015	Journal of Strategic Marketing
53	Barrett M, Oborn E, Orlikowski WJ	Creating value in online communities: The sociomaterial configuring of strategy, platform, and stakeholder engagement	2016	Inform. Systems Res.
54	Mai, H.T.X., Olsen, S.O.	Consumer participation in virtual communities: The role of personal values and personality	2015	Journal of Marketing Communications

APPENDIX V SLR Coding

no	Actor	Theme	Category	in paper	source
1	Individual participant	motivation	benefit	social benefit	Schaedel, U. and M. Clement (2010). "Managing the online crowd: Motivations for engagement in user-generated content." <i>Journal of Media Business Studies</i> 7(3): 17-36.
2	Individual participant	motivation	commitment	loyalty	Brodie, R. J., et al. (2013). "Consumer engagement in a virtual brand community: An exploratory analysis." <i>Journal of Business Research</i> 66(1): 105-114.
3	Individual participant	motivation	commitment	Commitment	M. Kang, J.-Y. (2014). "Repurchase loyalty for customer social co-creation e-marketplaces." <i>Journal of Fashion Marketing and Management</i> 18(4): 452-464.
4	Individual participant	motivation	commitment	commitment	Bugshan, H. (2015). "Co-innovation: The role of online communities." <i>Journal of Strategic Marketing</i> 23(2): 175-186.
5	Individual participant	motivation	benefit	benefit and motivation	Constantinides, E., et al. (2015). "Customer motives and benefits for participating in online co-creation activities." <i>International Journal of Internet Marketing and Advertising</i> 9(1): 21-48.
6	Individual participant	motivation	benefit	motives	Fernandes, T. and P. Remelhe (2016). "How to engage customers in co-creation: Customers' motivations for collaborative innovation." <i>Journal of Strategic Marketing</i> 24(3-4): 311-326.
7	Individual participant	motivation	benefit	monetary reward, show ideas, gain knowledge, intrinsic motives, dissatisfaction with current products, curiosity	Füller, J. (2006). "Why consumers engage in virtual new product developments initiated by producers." <i>ACR North American Advances</i> .
8	Individual participant	motivation	expectation	motives will impact expectation	Füller, J. (2010). "Refining virtual co-creation from a consumer perspective." <i>California management review</i> 52(2): 98-122.
9	Individual participant	motivation	benefit	Interaction-Based Customer Benefits	Nambisan, S. and R. A. Baron (2007). "Interactions in virtual customer environments: Implications for product support and customer relationship management." <i>Journal of Interactive Marketing</i> 21(2): 42-62.
10	Individual participant	motivation	motivation	motivation	Roberts, D., et al. (2014). "Exploring consumers' motivations to engage in innovation through co-creation activities." <i>European journal of Marketing</i> 48(1/2): 147-169.
11	Individual participant	motivation	benefit	motivation	Schaedel, U. and M. Clement (2010). "Managing the online crowd: Motivations for engagement in user-generated content." <i>Journal of Media Business Studies</i> 7(3): 17-36.
12	Individual participant	personal attribute	personality types	personality and psychological factor	Hasan, N. and A. A. Rahman (2017). "Ranking the Factors that Impact Customers Online Participation in Value Co-creation in Service Sector

no	Actor	Theme	Category	in paper	source
					Using Analytic Hierarchy Process." International Journal of Information Systems in the Service Sector (IJSSS) 9(1): 37-53.
13	Individual participant	personal attribute	current expertise/knowledge	current expertise/knowledge	Jeppesen, L. B. and L. Frederiksen (2006). "Why do users contribute to firm-hosted user communities? The case of computer-controlled music instruments." Organization science 17(1): 45-63.
14	Individual participant	personal attribute	personal value	personal value	Mai, H. T. X. and S. O. Olsen (2015). "Consumer participation in virtual communities: The role of personal values and personality." Journal of Marketing Communications 21(2): 144-164.
15	Individual participant	personal attribute	personality types	personality	Mai, H. T. X. and S. O. Olsen (2015). "Consumer participation in virtual communities: The role of personal values and personality." Journal of Marketing Communications 21(2): 144-164.
16	Individual participant	personal attribute	personality types	personality	Ståhlbröst, A. and B. Bergvall-Kåreborn (2011). "Exploring users motivation in innovation communities." International Journal of Entrepreneurship and Innovation Management 14(4): 298-314.
17	Individual participant	personal attribute	current expertise/knowledge	skill	Füller, J. 2010, 'Refining virtual co-creation from a consumer perspective', California management review, vol. 52, no. 2, pp. 98-122.
18	Individual participant	personal attribute	personality type	personality type	Füller, J. 2010, 'Refining virtual co-creation from a consumer perspective', California management review, vol. 52, no. 2, pp. 98-122.
19	Individual participant	personal evaluation	previous experiences	customer participation in the production, previous experiences in c2c interaction	Blasco-Arcas, L., et al. (2014). "The online purchase as a context for co-creating experiences. Drivers of and consequences for customer behavior." Internet research 24(3): 393-412.
20	Individual participant	personal evaluation	value equity	Value equity	M. Kang, J.-Y. (2014). "Repurchase loyalty for customer social co-creation e-marketplaces." Journal of Fashion Marketing and Management 18(4): 452-464.
21	Individual participant	personal evaluation	affective evaluation	Customers' Affective Evaluation of Interaction Experience in the VCE	Nambisan, S. and R. A. Baron (2007). "Interactions in virtual customer environments: Implications for product support and customer relationship management." Journal of Interactive Marketing 21(2): 42-62.
22	Individual participant	personal evaluation	previous experiences	previous innovation activities	Füller, J. 2010, 'Refining virtual co-creation from a consumer perspective', California management review, vol. 52, no. 2, pp. 98-122.
23	Firm	participatory leadership	formal and informal communication	Create new roles to strengthen VCE-company ties	Nambisan, S. and P. Nambisan (2008). "How to profit from a better'virtual customer environment'." MIT Sloan management review 49(3): 53.
24	Firm	participatory leadership	formal and informal communication	modify communication mechanisms	Nambisan, S. and P. Nambisan (2008). "How to profit from a better'virtual customer environment'." MIT Sloan management review 49(3): 53.

no	Actor	Theme	Category	in paper	source
25	Firm	participatory leadership	formal and informal communication	modify communication processes	Nambisan, S. and P. Nambisan (2008). "How to profit from a better'virtual customer environment'." MIT Sloan management review 49(3): 53.
26	Firm	participatory leadership	formal and informal communication, Activity Development	social communication: Attract critical mass <ul style="list-style-type: none"> • Encourage collaboration • Engage in conversations • Foster informal sociability 	Kohler, T., et al. (2011). "Co-creation in virtual worlds: The design of the user experience." Mis Quarterly 35(3): 773-788.
27	Firm	participatory leadership	Activity Development	Nurture playfulness	Kohler, T., et al. (2011). "Co-creation in virtual worlds: The design of the user experience." Mis Quarterly 35(3): 773-788.
28	Firm	participatory leadership	Activity Development	Provide challenging tasks	Kohler, T., et al. (2011). "Co-creation in virtual worlds: The design of the user experience." Mis Quarterly 35(3): 773-788.
29	Firm	participatory leadership	formal and informal communication	feedbacks	Chen, L., et al. (2012). "Theory and analysis of company-sponsored value co-creation." Journal of Management Information Systems 29(2): 141-172.
30	Firm	participatory leadership	Creative Customer Identification	tendency and mindset to engage creative customers leadership style	Hasan, N. and A. A. Rahman (2017). "Ranking the Factors that Impact Customers Online Participation in Value Co-creation in Service Sector Using Analytic Hierarchy Process." International Journal of Information Systems in the Service Sector (IJISSS) 9(1): 37-53.
31	Firm	participatory leadership	Activity Development	engage and encourage activities of value co-creation	Hasan, N. and A. A. Rahman (2017). "Ranking the Factors that Impact Customers Online Participation in Value Co-creation in Service Sector Using Analytic Hierarchy Process." International Journal of Information Systems in the Service Sector (IJISSS) 9(1): 37-53.
32	Firm	participatory leadership	share decision making	actively engaging community members in management and decision making	Gebauer, J., et al. (2013). "The dark and the bright side of co-creation: Triggers of member behavior in online innovation communities." Journal of Business Research 66(9): 1516-1527.
33	Firm	reward systems	monetary reward system	incentives	Hall, H. and D. Graham (2004). "Creation and recreation: Motivating collaboration to generate knowledge capital in online communities." International Journal of Information Management 24(3): 235-246.
34	Firm	reward systems	monetary reward system	monetary rewards	Füller, J. (2006). "Why consumers engage in virtual new product developments initiated by producers." ACR North American Advances.
35	Firm	reward systems	reputation mechanisms	reputation mechanisms	Jeppesen, L. B. and L. Frederiksen (2006). "Why do users contribute to firm-hosted user communities? The case of computer-controlled music instruments." Organization science 17(1): 45-63.
36	Firm	reward systems	Establish customer recognition programs	Establish customer recognition programs	Nambisan, S. and P. Nambisan (2008). "How to profit from a better'virtual customer environment'." MIT Sloan management review 49(3): 53.

no	Actor	Theme	Category	in paper	source
37	Firm	reward systems	monetary reward system	monetary incentives	Zhang, T., et al. (2015). "Motivations for customer engagement in online co-innovation communities (OCCs) A conceptual framework." <i>Journal of Hospitality and Tourism Technology</i> 6(3): 311-328
38	Firm	reward systems	monetary reward system	Rewards and remunerations.	Hasan, N. and A. A. Rahman (2017). "Ranking the Factors that Impact Customers Online Participation in Value Co-creation in Service Sector Using Analytic Hierarchy Process." <i>International Journal of Information Systems in the Service Sector (IJISSS)</i> 9(1): 37-53.
39	Firm	transparency	Customer role transparency	Enhance customer role transparency	Nambisan, S. and P. Nambisan (2008). "How to profit from a better'virtual customer environment'." <i>MIT Sloan management review</i> 49(3): 53.
40	Firm	transparency	process transparency	Enhance innovation process transparency	Nambisan, S. and P. Nambisan (2008). "How to profit from a better'virtual customer environment'." <i>MIT Sloan management review</i> 49(3): 53.
41	Firm	transparency	Outcome transparency	Enhance VCE outcome transparency	Nambisan, S. and P. Nambisan (2008). "How to profit from a better'virtual customer environment'." <i>MIT Sloan management review</i> 49(3): 53.
42	Firm	transparency	process transparency	clear and fair participation policy	Hasan, N. and A. A. Rahman (2017). "Ranking the Factors that Impact Customers Online Participation in Value Co-creation in Service Sector Using Analytic Hierarchy Process." <i>International Journal of Information Systems in the Service Sector (IJISSS)</i> 9(1): 37-53.
43	Social	equality	norm of reciprocity	norm of reciprocity	Wiertz, C. and K. de Ruyter (2007). "Beyond the call of duty: Why customers contribute to firm-hosted commercial online communities." <i>Organization studies</i> 28(3): 347-376.
44	Social	equality	Perceived fairness	Perceived fairness	Gebauer, J., et al. (2013). "The dark and the bright side of co-creation: Triggers of member behavior in online innovation communities." <i>Journal of Business Research</i> 66(9): 1516-1527.
45	Social	information quality	Usefulness (related to information)	Usefulness (related to information)	Laing, A., et al. (2011). "Virtual communities come of age: Parallel service, value, and propositions offered in communal online space." <i>Journal of Marketing Management</i> 27(3-4): 291-315.
46	Social	information quality	Balance between personal and research credibility	Balance between personal and research credibility	Laing, A., et al. (2011). "Virtual communities come of age: Parallel service, value, and propositions offered in communal online space." <i>Journal of Marketing Management</i> 27(3-4): 291-315.
47	Social	information quality	content quality	content quality	Seraj, M. (2012). "We create, we connect, we respect, therefore we are: intellectual, social, and cultural value in online communities." <i>Journal of Interactive Marketing</i> 26(4): 209-222.
48	Social	sense of community	social bonds	strong social bonds	Hall, H. and D. Graham (2004). "Creation and recreation: Motivating collaboration to generate knowledge capital in online communities." <i>International Journal of Information Management</i> 24(3): 235-246.

no	Actor	Theme	Category	in paper	source
49	Social	sense of community	community identification	community identification	Nambisan, S. and R. A. Baron (2007). "Interactions in virtual customer environments: Implications for product support and customer relationship management." <i>Journal of Interactive Marketing</i> 21(2): 42-62.
50	Social	sense of community	obligation to community	commitment to the collective	Wiertz, C. and K. de Ruyter (2007). "Beyond the call of duty: Why customers contribute to firm-hosted commercial online communities." <i>Organization studies</i> 28(3): 347-376.
51	Social	sense of community	social bonds	Bonding	Misra, R., et al. (2008). "Value creation in virtual communities: the case of a healthcare web site." <i>International Journal of Pharmaceutical and Healthcare Marketing</i> 2(4): 321-337.
52	Social	sense of community	sense of belonging	Sense of belonging to a community	Misra, R., et al. (2008). "Value creation in virtual communities: the case of a healthcare web site." <i>International Journal of Pharmaceutical and Healthcare Marketing</i> 2(4): 321-337.
53	Social	sense of community	community identification	creation of the cultural codes, norms, and tradition	Pongsakornrungrasit, S. and J. E. Schroeder (2011). "Understanding value co-creation in a co-consuming brand community." <i>Marketing theory</i> 11(3): 303-324.
54	Social	sense of community	social bonds	social interaction	Pongsakornrungrasit, S. and J. E. Schroeder (2011). "Understanding value co-creation in a co-consuming brand community." <i>Marketing theory</i> 11(3): 303-324.
55	Social	sense of community	sense of belonging	strong sense of belonging to a community	Chen, L., et al. (2012). "Theory and analysis of company-sponsored value co-creation." <i>Journal of Management Information Systems</i> 29(2): 141-172.
56	Social	sense of community	social bonds	peer feedback	Chen, L., et al. (2012). "Theory and analysis of company-sponsored value co-creation." <i>Journal of Management Information Systems</i> 29(2): 141-172.
57	Social	sense of community	community identification	shared consciousness	Laroche, M., et al. (2012). "The effects of social media based brand communities on brand community markers, value creation practices, brand trust and brand loyalty." <i>Computers in Human Behavior</i> 28(5): 1755-1767.
58	Social	sense of community	community identification	shared rituals and traditions	Laroche, M., et al. (2012). "The effects of social media based brand communities on brand community markers, value creation practices, brand trust and brand loyalty." <i>Computers in Human Behavior</i> 28(5): 1755-1767.
59	Social	sense of community	obligation to community	obligation to society	Laroche, M., et al. (2012). "The effects of social media based brand communities on brand community markers, value creation practices, brand trust and brand loyalty." <i>Computers in Human Behavior</i> 28(5): 1755-1767.

no	Actor	Theme	Category	in paper	source
60	Social	sense of community	social bonds	connection & emotional bonds	Brodie, R. J., et al. (2013). "Consumer engagement in a virtual brand community: An exploratory analysis." <i>Journal of Business Research</i> 66(1): 105-114.
61	Social	sense of community	sense of belonging	sense of community	Gebauer, J., et al. (2013). "The dark and the bright side of co-creation: Triggers of member behavior in online innovation communities." <i>Journal of Business Research</i> 66(9): 1516-1527.
62	Social	sense of community	community identification	community identity	Healy, J. C. and P. McDonagh (2013). "Consumer roles in brand culture and value co-creation in virtual communities." <i>Journal of Business Research</i> 66(9): 1528-1540.
63	Social	sense of community	obligation to community	sense of responsibility	Bugshan, H. (2015). "Co-innovation: The role of online communities." <i>Journal of Strategic Marketing</i> 23(2): 175-186.
64	Social	sense of community	sense of belonging	sense of community	Zhang, T., et al. (2015). "Motivations for customer engagement in online co-innovation communities (OCCs) A conceptual framework." <i>Journal of Hospitality and Tourism Technology</i> 6(3): 311-328
65	Social	sense of community	sense of belonging	sense of belonging	Zhao, J., et al. (2015). "Patient value co-creation in online health communities: Social identity effects on customer knowledge contributions and membership continuance intentions in online health communities." <i>Journal of service Management</i> 26(1): 72-96.
66	Social	similarity	Shared Interest	Shared interest(s) among the participants	Misra, R., et al. (2008). "Value creation in virtual communities: the case of a healthcare web site." <i>International Journal of Pharmaceutical and Healthcare Marketing</i> 2(4): 321-337.
67	Social	similarity	Shared Interest	empowerment through sharing interests	Brodie, R. J., et al. (2013). "Consumer engagement in a virtual brand community: An exploratory analysis." <i>Journal of Business Research</i> 66(1): 105-114.
68	Social	similarity	Members' Commonality	members' common experiences, shared vision, and shared background knowledge	Zhao, J., et al. (2015). "Patient value co-creation in online health communities: Social identity effects on customer knowledge contributions and membership continuance intentions in online health communities." <i>Journal of service Management</i> 26(1): 72-96.
69	Social	trust	Benevolence trust and integrity trust	atmosphere	Laing, A., et al. (2011). "Virtual communities come of age: Parallel service, value, and propositions offered in communal online space." <i>Journal of Marketing Management</i> 27(3-4): 291-315.
70	Social	trust	Benevolence trust	trust	Seraj, M. (2012). "We create, we connect, we respect, therefore we are: intellectual, social, and cultural value in online communities." <i>Journal of Interactive Marketing</i> 26(4): 209-222.
71	Social	trust	Benevolence trust	Benevolence trust	Zhao, J., et al. (2015). "Patient value co-creation in online health communities: Social identity effects on customer knowledge contributions and membership continuance intentions in online health communities." <i>Journal of service Management</i> 26(1): 72-96.

no	Actor	Theme	Category	in paper	source
72	Social	trust	Integrity trust	Integrity trust	Zhao, J., et al. (2015). "Patient value co-creation in online health communities: Social identity effects on customer knowledge contributions and membership continuance intentions in online health communities." <i>Journal of service Management</i> 26(1): 72-96.
73	Technology	association	Interpersonal Relationship	Establish exclusive customer forums	Nambisan, S. and P. Nambisan (2008). "How to profit from a better'virtual customer environment'." <i>MIT Sloan management review</i> 49(3): 53.
74	Technology	association	Interpersonal Relationship	engagement platforms promote interpersonal communication	Blasco-Arcas, L., et al. (2014). "The online purchase as a context for co-creating experiences. Drivers of and consequences for customer behavior." <i>Internet research</i> 24(3): 393-412.
75	Technology	association	Association between Individual and Content	connect a piece of information with the poster	Nambisan, S. and P. Nambisan (2008). "How to profit from a better'virtual customer environment'." <i>MIT Sloan management review</i> 49(3): 53.
76	Technology	interactivity	interactive feature	Virtual location people can go to in order to meet	Misra, R., et al. (2008). "Value creation in virtual communities: the case of a healthcare web site." <i>International Journal of Pharmaceutical and Healthcare Marketing</i> 2(4): 321-337.
77	Technology	interactivity	social translucence	Use tools to enhance social translucence	Nambisan, S. and P. Nambisan (2008). "How to profit from a better'virtual customer environment'." <i>MIT Sloan management review</i> 49(3): 53.
78	Technology	interactivity	virtual reality	Deploy flow technologies	Nambisan, S. and P. Nambisan (2008). "How to profit from a better'virtual customer environment'." <i>MIT Sloan management review</i> 49(3): 53.
79	Technology	interactivity	interactive feature	experienced tool support	Füller, J., et al. (2009). "Consumer empowerment through internet-based co-creation." <i>Journal of Management Information Systems</i> 26(3): 71-102.
80	Technology	interactivity	virtual reality	Create immersive environments	Kohler, T., et al. (2011). "Co-creation in virtual worlds: The design of the user experience." <i>Mis Quarterly</i> 35(3): 773-788.
81	Technology	interactivity	interactive feature	Develop interactive objects	Kohler, T., et al. (2011). "Co-creation in virtual worlds: The design of the user experience." <i>Mis Quarterly</i> 35(3): 773-788.
82	Technology	interactivity	interactive feature	platform interactivity	Seraj, M. (2012). "We create, we connect, we respect, therefore we are: intellectual, social, and cultural value in online communities." <i>Journal of Interactive Marketing</i> 26(4): 209-222.
83	Technology	interactivity	social translucence, interactive feature	Use of social media within online platform.	Hasan, N. and A. A. Rahman (2017). "Ranking the Factors that Impact Customers Online Participation in Value Co-creation in Service Sector Using Analytic Hierarchy Process." <i>International Journal of Information Systems in the Service Sector (IJISSS)</i> 9(1): 37-53.
84	Technology	persistence	accessibility	Platform Reliability & easy access	Hasan, N. and A. A. Rahman (2017). "Ranking the Factors that Impact Customers Online Participation in Value Co-creation in Service Sector

no	Actor	Theme	Category	in paper	source
					Using Analytic Hierarchy Process." International Journal of Information Systems in the Service Sector (IJSSS) 9(1): 37-53.
85	Technology	persistence	consistent presentation	In particular, several NSTA LC members noted the ways in which the Portfolio Tool and the "LibraryTool" enabled them to more effectively leverage growing knowledge capital.	Booth, S.E. & Kellogg, S.B. 2015, 'Value creation in online communities for educators', British Journal of Educational Technology, vol. 46, no. 4, pp. 684-98
86	Technology	visibility	rating system	product content rating systems	Nambisan, S. and P. Nambisan (2008). "How to profit from a better'virtual customer environment'." MIT Sloan management review 49(3): 53.
87	Technology	visibility	knowledge centers	product knowledge centers	Nambisan, S. and P. Nambisan (2008). "How to profit from a better'virtual customer environment'." MIT Sloan management review 49(3): 53.
88	Technology	visibility	usability	Adopt clean technical designs	Nambisan, S. and P. Nambisan (2008). "How to profit from a better'virtual customer environment'." MIT Sloan management review 49(3): 53.
89	Technology	visibility	usability	Usability	Kohler, T., et al. (2011). "Co-creation in virtual worlds: The design of the user experience." Mis Quarterly 35(3): 773-788.
90	Technology	visibility	usability	Perceived web site quality	M. Kang, J.-Y. (2014). "Repurchase loyalty for customer social co-creation e-marketplaces." Journal of Fashion Marketing and Management 18(4): 452-464.
91	Technology	visibility	usability	task relevant cues	Zhang, H., et al. (2015). "The impacts of technological environments and co-creation experiences on customer participation." Information & Management 52(4): 468-482.
92	Technology	visibility	usability	affection relevant cues	Zhang, H., et al. (2015). "The impacts of technological environments and co-creation experiences on customer participation." Information & Management 52(4): 468-482.
93	Technology	visibility	usability	perceived usefulness	Cheung, M. F. and W. To (2016). "Service co-creation in social media: An extension of the theory of planned behavior." Computers in Human Behavior 65: 260-266.
94	Technology	visibility	usability	well design platform	Hasan, N. and A. A. Rahman (2017). "Ranking the Factors that Impact Customers Online Participation in Value Co-creation in Service Sector Using Analytic Hierarchy Process." International Journal of Information Systems in the Service Sector (IJSSS) 9(1): 37-53.

no	Actor	Theme	Category	in paper	source
95	Technology	visibility	searching tool	searching tools	Booth, S. E. and S. B. Kellogg (2015). "Value creation in online communities for educators." British Journal of Educational Technology 46(4): 684-698.

APPENDIX VI Updated List of Enablers and Constraints

actor	Theme	Category	Explanation	
Firm	Participatory leadership	Formal and Informal Communication	The development of ways to engage in formal and informal by for example: a dedicated firm representation to bridge communication, procedure to respond to customers, foster informal sociability (Chen, Marsden & Zhang 2012; Kohler et al. 2011; Nambisan & Nambisan 2008).	
		Share Decision Making <i>Constraint: low share decision making</i>	The development of plan to engage community members in management and decision making (Gebauer, Füller & Pezzeri 2013) <i>low share decision making (Ind, Iglesias & Schultz 2013)</i>	
		Creative Customer Identification	Refers to leaders' tendency and mindset to engage creative customers in creation of value and support their initiatives and innovative ideas. (Hasan & Rahman 2017)	
		Activity Development <i>Constraint: low activity development (ca)</i>	Refers to promoting and opening opportunity for co-creation by developing a form of play rather than intended seriously with all customers as co-partners (Hasan & Rahman 2017; Kohler et al. 2011) <i>low activity development (Ind, Iglesias & Schultz 2013)</i>	
		Sharing tasks (ca) (in)	The management of online community is shared, not all tasks to manage the community is under the firm responsibility.	
		Equal Partnership (ca) (in)	Refers to the tendency of firms to show that they share control with individual participants over the online community.	
	Reward systems	Monetary reward system	Monetary related reward systems (Füller 2006; Hall & Graham 2004; Hasan & Rahman 2017)	
		Reputation Mechanism	Reputation gained as a result of co-creation participation or other non-monetary rewards. (Jeppesen & Frederiksen 2006)	
		Customer Recognition Program	awards given to customers who take active participation in co-creation (Nambisan & Nambisan 2008)	
		<i>Reward suitability</i>	<i>Suitability the reward selection with the nature of challenges and participants (Hall & Graham 2004)</i> <i>Taken from constraint: unsuitable reward selection</i>	
	Transparency	Customer Role Transparency	The clarity and transparency of roles of customers in co-creation participants (Nambisan & Nambisan 2008)	
		Process Transparency <i>Constraint: Low process transparency (ca)</i>	the clarity and transparency of processes related to the firm and participant relationship, including the nature of the processes, who is involved, the time sequence (Hasan & Rahman 2017; Nambisan & Nambisan 2008)	
		Outcome Transparency	keeping customers informed about what is happening to their inputs (Nambisan & Nambisan 2008)	
		Business transparency (ca)	The clarity and transparency of the business practice. For example: the production, the supplier etc.	
	Individual	Motivation	Benefits	benefits from interaction in the community, such as: monetary reward, show ideas, gain knowledge, intrinsic motives, curiosity (Constantinides, Brünink & Lorenzo-Romero 2015; Fernandes & Remelhe 2016; Füller 2006; Nambisan & Baron 2007; Schaedel & Clement 2010)

actor	Theme	Category	Explanation
		Expectation	a belief about what benefits that will be received in the future (Füller 2010)
		Commitment	Commitment is enduring desire to continue a relationship accompanied by his willingness to make efforts at maintaining it (Brodie et al. 2013; Bugshan 2015; M. Kang 2014).
		Addiction (in) – removed, change to commitment	Addiction is a sense of deep involvement that is intrinsically enjoyable which is demonstrated by urge to participate with no logical reasons behind the participation.
	Personal attributes	Current Skills and Knowledge <i>Constraint: Low skills</i>	current state of skills and knowledge of the persons (Füller 2010; Jeppesen & Frederiksen 2006) <i>low skills (Harrison & Waite 2015; Wu & Fang 2010)</i>
		Personality Type	A personality type is unique characteristic patterns of a person (Füller 2010; Hasan & Rahman 2017; Mai & Olsen 2015; Ståhlbröst & Bergvall-Kåreborn 2011)
		Personal Value	Personal values are defined as concepts or beliefs about desirable end states or behaviours that transcend specific situations, guide selection or evaluation of behaviour and events, and are ordered by relative importance (Mai & Olsen 2015)
	Personal evaluation towards the community	Affective Evaluation <i>Constraint: negative evaluation (in)</i>	customers' attribution of positive feelings generated from their interactions in the community (Nambisan & Baron 2007).
		Previous Experience <i>Constraint: worse current experience (in)</i>	Personal experiences related to the co-creation process (Blasco-Arcas, Hernandez-Ortega & Jimenez-Martinez 2014; Füller 2010)
		Value Equity	Value equity represents a customer's assessment of what is given up (i.e. the price paid for the product) compared to what is received in return (value), for example: a good price-quality ratio points to high-value equity (M. Kang 2014)
	Social	Sense of community	Social Bond <i>Constraint: low social bond (in)</i>
Community Identity			Refers to creation of the codes, norms, and tradition that become community identity (Healy & McDonagh 2013; Pongsakornrungrungsilp & Schroeder 2011)
Obligation to the Community			A sense of responsibility to assist others in the collective. This includes peer feedbacks (Bugshan 2015; Chen, Marsden & Zhang 2012; Laroche et al. 2012; Wiertz & de Ruyter 2007)
Trust		Integrity Trust <i>Constraint: low integrity trust (in)</i>	Trust to others, that other members will follow generally accepted rules (Laing, Keeling & Newholm 2011; Seraj 2012; Zhao, Wang & Fan 2015)
		Benevolence Trust	Trust to others, that other members are genuinely concerned about their welfare and benefits (Seraj 2012; Zhao, Wang & Fan 2015)
Similarity		Shared Interest	Refers to the similarity of interest to a particular objects (Brodie et al. 2013; Misra, Mukherjee & Peterson 2008)
		Members' Commonality	Refers to similarity of experiences, vision, background, and knowledge (Zhao, Wang & Fan 2015)
Content Quality		Usefulness of Content Discussion	The discussion is useful for its participants (Laing, Keeling & Newholm 2011; Seraj 2012)

actor	Theme	Category	Explanation
		Balance Between Personal and Facts	The balance amount of information between personal experience and facts (Laing, Keeling & Newholm 2011)
		Completeness (ca)	Provide all necessary information
	Equality	Norm of Reciprocity	Refers to the norm of people should help those who have helped them by returning equivalent benefits. (Wiertz & de Ruyter 2007)
		Perceived of Fairness	Refers to the fairness of interactions and non-written rules in the online community (Gebauer, Füller & Pezzeri 2013)
Social Hierarchy (in)	Social Hierarchy (in) <i>Constraint: social hierarchy (ca) (in)</i>	Refer to a condition in a group where members vary in their level of power, influence, or dominance	
Technology	Association	Interpersonal Relationship <i>Constraint: Limited Interpersonal Relationship (ca)</i>	It is also called as social tie technological features which refer to features that support interpersonal relationship, such as add friends, add group, etc (Blasco-Arcas, Hernandez-Ortega & Jimenez-Martinez 2014; Nambisan & Nambisan 2008)
		Association between Individual and Content	Refers to features that support relationship of individual with a piece of information, such as contributor list, tagging (Nambisan & Nambisan 2008)
	Interactivity	Social Translucence	Design features that provide customers with social cues that offer richer social experiences and permit richer customer discussions, such as emotion, feeling, etc. (Hasan & Rahman 2017; Nambisan & Nambisan 2008)
		Interactive Feature	Refers to embedding social network and media web-based technologies to create highly interactive platforms. This includes develop interactive features such as sharing, posting, commenting, virtual locations (Hasan & Rahman 2017; Kohler et al. 2011; Misra, Mukherjee & Peterson 2008; Seraj 2012)
		Virtual Reality	Simulation tools that combine technological and human interactivity to produce stimulating experiences (Füller et al. 2009; Kohler et al. 2011; Nambisan & Nambisan 2008)
	Persistence	Accessibility	Refers to online platform constant availability and reliability (Hasan & Rahman 2017)
		Consistent Presentation	Refers to constant format and presentation of data that is input to the system (Booth & Kellogg 2015)
	Visibility	Rating System	A system that provides information about the rating of a product. This includes review, number of likes, etc (Nambisan & Nambisan 2008)
		Information Center <i>Constraint: Inappropriate Information Center (ca)(in)</i>	A system that can feed customers the right knowledge and information at the right time. (Nambisan & Nambisan 2008)
		Usability <i>Constraint: Complex feature</i>	Having a simple, easy-to-use customer interface combined with fast and highly intuitive navigation features. This includes attractiveness and clarity of the instructions and contents. (Cheung & To 2016; Hasan & Rahman 2017; Kohler et al. 2011; M. Kang 2014; Nambisan & Nambisan 2008; Zhang et al. 2015)
		Searching Tool <i>Constraint: Limited Searching Tool Ability (ca) (in)</i>	Refers to feature that helps participants to search. For example, "LibraryTool" enabled a group of educators to search particular knowledge written by peers. (Booth & Kellogg 2015)

actor	Theme	Category	Explanation
	Flexibility (ca) (in)	Turn Feature On and Off (ca) (in)	Refers to the ability to switch a feature to on or off
		Mode of privileges (ca)	Refers to the more than one options to select privileges for individual participants
		Privacy Level (ca) (in)	Refers to the options to change the privacy level in having conversation with others in the online community
	Privacy	Privacy (in)	Refer to a problem that occurs because of the difficulty to manage privacy in the online platform. <i>Taken from constraint: security problem</i>

(in) : finding from Interviews

(ca) : Finding from Content Analysis

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