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Sponsored Online Community Types and Participant's Perceived Value

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ABSTRACT

The growth of social media has enabled firms to create virtual organizations (online communities) in which value can be co-created with members. Yet, current typologies of firm-sponsored online communities focus either on the firm or participants, and not the interaction between them. This paper provides a systematic review of the online community literature from 2000 to 2018 to develop an understanding of the types of firm-sponsored online communities and the co-creation of value within them. Four types of sponsored online communities are found. These can be differentiated based on the output for the sponsoring firm and the level of self-organization of the communities. This study contributes to the discussion of value co-creation by (i) shedding light on differences among firm-sponsored online community types based on the level and nature of interaction within an online community; and (ii) examining the perceived value co-created through community interactive experiences.

Keywords: Co-creation, Online Community, Value

Ⅰ. Introduction

The emergence of social media has led firms to consider online communities as a strategy through which to co-create value with their customers in production, innovation, and information dissemination (Abedin and Jafarzadeh, 2013; Liu et al., 2017; Svahn et al., 2017; von Briel and Recker, 2017). In this way, the difficulties experienced in contemporary business environments, characterized by open systems and hyper-competition, in developing new products and services; bringing them quickly to market; and sustaining firm performance (Beydoun et al., 2019) can be addressed. In this respect, increasingly the potential of virtual communities for value creation and innovation is becoming recognized (Abedin, 2011; Abedin, 2016; Yan et al., 2018). Despite the growing proliferation and variety of online co-cre-

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ation communities, our understanding of firm-sponsored online communities is still emerging, and research in this domain is fragmented with limited attempts at integration (Faraj et al., 2016). If proliferation marks societal importance, variety bares the risk of definitional divergence which we aim to clarify and reconcile.

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 et al., 2018). An online community is a group of people, who are not necessarily identifiable, that is connected through a virtual platform (Spagnoletti et al., 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 and Haefliger, 2013). Beyond the descriptive, firm-sponsored communities have no clear identity yet, with attempts to define those creating confusion between the concept of a sponsored online brand community and that of company-sponsored online co-creation. For example, a study identify co-creation as a type of crowdsourcing (Tripathi et al., 2014) while another study do not consider crowdsourcing to be co-creation because of the lack of interactivity in the creation process (Ind and Coates, 2013). 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 is beneficial to advancing our understanding of this phenomenon.

This paper focuses on the role of interactivity within firm-sponsored online communities; proposing this as a way towards theory development that is relevant to practice (Felin et al., 2017). Interaction generally is seen as the central determinant of knowledge flow (Faraj et al., 2011) and sustainability of any online community (Gebauer et al., 2013); yet this distinction is far from clear in the context of firm-sponsored online communities (Felin et al., 2017). Although the co-creation literature stresses the importance of interaction between the sponsoring firm and individual participants in firm-sponsored online communities, current typologies of different online communities focus either on the firm or participants but not the interaction between them. For example, a study provides a taxonomy of co-creation based on characteristics attached to the sponsoring firm (i.e., tasks, incentives, and IT support) and individual participants (i.e., motivation, performance, and autonomous involvement) (Zwass, 2010), but overlooks the collective interaction that serves as the foundation of value co-creation and overlooks the range and level of communal interactivity (Briel and Recker, 2017; Heidenreich et al., 2015). Understanding the emergent social interactivity can assist in identifying the social patterns occurring in the changing landscape of organizations as they invite people from outside the organization to participate in the execution of such strategies.

This study synthesizes the existing literature on firm-sponsored online communities. In particular, it emphasizes the interactivity within online communities and the perceived value generated through such interactive experience. Through a systematic literature review the paper attempts to answer the following questions: 1) What are the characteristics and types of online co-creation communities? 2) What value do individuals gain from membership of online co-creation communities?

The paper is organized as follows: Section 2 presents the background and gaps in the literature; Section 3 presents the methodology for the systematic liter-

ature review. The findings and the discussion are presented in Sections 4 and 5; and Section 6 discusses the theoretical and practical implications of this study, and its limitations. The paper concludes with recommendations for further research.

Ⅱ. Background

2.1. Firm-Sponsored Online Communities and Value Co-Creation

A study define co-creation as an active, creative, and social process based on collaboration between organizations and members that generate value for all (Ind and Coates, 2013). This definition emphasizes the point that a 'community' is built on the base of a collaborative relationship between stakeholders for mutual benefit. However, much of the research in this field reflects a managerial perspective that focuses strongly on the interests of the sponsoring organization (Suseno et al., 2018). By neglecting customers' needs, sponsoring firms run the risk of inhibiting the growth of the online community (Briel and Recker, 2017; Gebauer et al., 2013). Cova and Dalli argue that members of online co-creation communities should be viewed as workers who contribute to the sponsoring firm's purpose and access to new business opportunities (Cova and Dalli, 2009). Ind and Coates concur that co-creation should be viewed as a willingness to engage with stakeholders for mutual benefit. Online co-creation, thus, can be considered as an open system.

The definition that is used in this study emphasizes collaborative interactivity between stakeholders. However, there are different ways to analyse such interactivity in co-creation and, in this respect, the open systemic approach which emphasizes common characteristics (such as input, transformation and output) was selected (Batista et al., 2008). The co-creation process is viewed as an open system for the following reasons. Firstly, it requires input which means that the system requires participation from individual members to operate. Participation may relate to motivation or personal attributes of individual participants (Roberts et al., 2014). 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. This includes the process (incentives, policies) and characteristics of the tasks (Zwass, 2010). Furthermore, outputs of the interactivity can be viewed from two perspectives: organizational and individual participants' perspective.

Some scholars have proposed categorizations of online communities to serve as a foundation for further enquiry. These categorizations show that academic attention to the context of online communities is limited to the participants' attributes (i.e., the level of engagement, motivation, and profession) (Hagel and Armstrong, 1997; Stanoevska-Slabeva and Schmid, 2001; White and Le Cornu, 2011), the sponsoring firm's attributes (i.e., profit/non-profit organization, rewards, modes of generating knowledge), and the technology in use (Piller et al., 2010; Zwass, 2010).

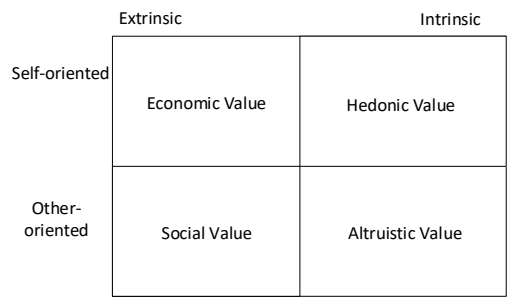
These categorizations take for granted the process within the online communities and by focusing on actor attributes their contribution to our understanding of this phenomenon is limited, particularly in a context where technological innovation is outpacing our ability to theorize practice. In this respect, however, a study emphasizes the need to understand the social interaction within online communities as a necessary step towards our ability to theorize this phenomenon (Felin et al., 2017).

Control in online communities is fluid. Given the emergent nature of these communities, rules, participants and interactivity are continuously in a state of flux (Priharsari et al., 2020). Such fluidity may also relate to the formation of the online community organization (Pica and Kakihara, 2003). Whether deliberately designed and/or unintended, emergent social interactions are the central determinant of knowledge flow (Faraj et al., 2011) and sustainability of an online community (Gebauer et al., 2013). This distinction, however, is far from clear in the context of firm-sponsored online communities (Felin et al., 2017). Understanding these emergent social interactions can illuminate the social patterns that underlie the changing landscape of organizations when they invite external stakeholders to participate in the execution of such strategies.

One way to identify the forms of social interaction is based on the individuality of efforts (Felin et al., 2017). The very simplest of these forms comes from aggregating individual efforts to the collective level. Another form involves the careful analysis of coordination and collaboration among individuals where common goals, cooperation, and task interdependence exists. Understanding the variety of forms of social interaction in online environments and combining this knowledge with an analysis of the outcomes for the sponsoring firm and participants, may facilitate greater understanding of the role of technology in stakeholder interactivity and, conversely, how such interactivity may initiate the development of new technologies. This may also facilitate theoretical development in this domain.

2.2. Value Perceived by Individual Participants in Firm-Sponsored Online Communities

Value is often seen as the relationship between benefits gained and sacrifices made (Grönroos, 2011). Various types of value have been defined by scholars. For example value perceived by customers are experience, personalization, and relationship (Ranjan and Read, 2016). Holbrook defines value as 'an interactive relativistic preference experience' where comparison among outcomes varies from one person to another and is situationally contingent (Holbrook, 2006, p. 715). Preference, thus, is based on contextually influenced subjective criteria.



<Figure 1> Typology of Customer Value (Holbrook, 2006)

Holbrook introduces two key underlying distinctions for the typology of customer value: intrinsic vs. extrinsic motives and self-oriented vs. other-oriented appreciations. Holbrook's typological lens is relevant for this study because participants of a co-creation initiative, initiated by a sponsoring firm, can also be considered as customers. Those underlying dimensions deserve to be distinguished when consumer behaviour is under consideration (Holbrook, 2006). Intrinsic motives mean that the consumption experience is motivated by the end-in-itself whereas extrinsic motives relate to some further-end motivation. Self-orientation occurs when the consumption experience has effects on the 'self'; on the other hand, other-orientation arises when the consumption experience affects others. In the typology presented in

<Figure 1>, economic value refers to experience related to the consumer's objective, for example, financial gain or career progression. Social value refers to experience related to others' responses, for example, status-enhancing favourable impression. Hedonic value is realized when pleasure for its own sake, is realized through the consumption experience, for example, fun, enjoyment, and playfulness. Finally, altruistic value arises from the consumption experience when others are positively affected, such as in ethical behaviour or making a contribution of a charity.

Ⅲ. Research Method

Our approach for conducting a systematic literature review has been inspired by Brereton et al. (2007), Kitchenham (2007) and Erfani and Abedin (2018). Our review consists of three primary stages: initiation and selection, analysis and coding procedure, and findings.

3.1. Initiation and Selection

For this systematic literature review, the key terms were chosen based on the research questions. These keywords were: value creation, online community and online environment. Accordingly, these three 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.' Searches were conducted via titles, abstracts, and keywords.

("Value" or "benefit") AND "creation" AND ("virtual consumer environment" or "online" or "virtual")

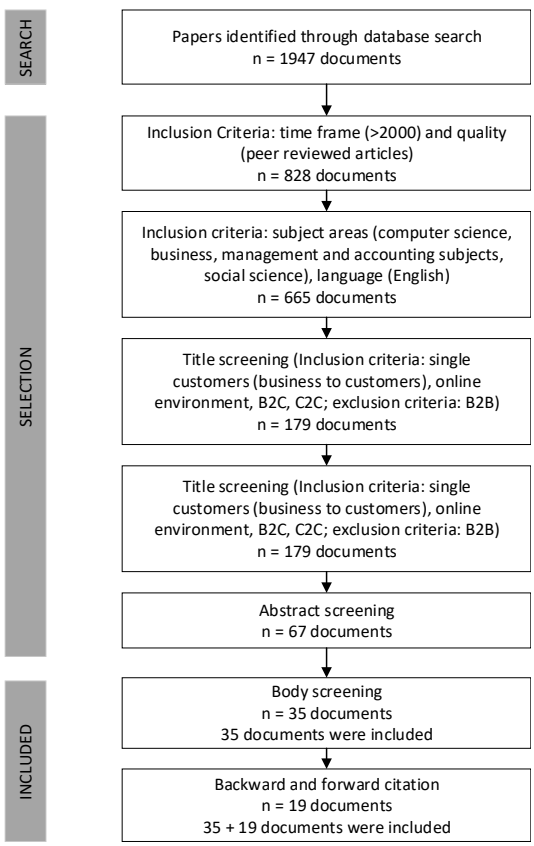
It is important to limit the subject area or topics for a search because when the results cover autonomous sub-fields, researchers may struggle with an overload of information and the creation of transdisciplinary confusion (Tranfield et al., 2003). Accordingly, one set of results can be considered more relevant than others if the subject areas are closer to the main study. Thus, we selected computer science, business, management, and accounting as the subject areas. We also included social sciences to cover the social aspects of online communities. Searching was also limited to papers written in English published from 2000 to the middle of 2018. We used Scopus as our source for the search because it encompasses papers from various major databases such as EBSCO, ScienceDirect and the Association for Computing Machinery Digital Library.

The selection of the studies comprised six steps. The six steps included how the 1947 total identified references from the keyword selection were filtered. First, we started with selection based on keywords, which was followed by applying inclusion criteria. A total of 665 articles met the inclusion criteria. The next step was screening the title, followed by screening the abstract and finally screening the body text. The selection criteria in the title, abstract, and body text steps were: individual members, using an online environment (either an online environment or a mix between online and offline environments), users' perspectives, a business-to-customer and/or a customer-to-customer environment sponsored by an organization, and a peer-reviewed journal. Each screening was conducted twice, and Cohen's kappa was calculated to examine the reliability of the selection. 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.

The title, abstract, and body text screening produced Cohen's Kappa values above 0.4, is 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 a third time, and a decision being made accordingly. Finally, a total of 35 documents, which met all the criteria, were selected for the review.

A simple scan of the references is conducted (MacDonell et al., 2010). We used this approach as the number of initial primary studies was adequate (35 papers) and realistic due to time constraints.



<Figure 2> Selection Process

First, we conducted a backward search by scanning reference lists and then used Google Scholar to identify additional related articles (forward search). After we added the result of both the backward and forward searches, a total of 54 studies was achieved. <Figure 2> illustrates the selection process.

3.2. Analysis and Coding Procedure

The analysis and coding procedure were divided into two parts. The first part was to understand the types and characteristics of online co-creation communities (research question 1). In this part, we used the descriptions for collaboration among customers and firms and for the corresponding online co-creation communities, and then carefully studied them to distil, overlap, and merge related concepts based on the relationship in the co-creation as an open system. The table below (<Table 1>) provides examples of excerpt from the selected literature. Subsequently, we used the open system view (Batista et al., 2008) discussed in section 2.1 to further analyze and map attributes of various sponsored online communities found in the literature The mapping is presented in <Table 2>.

The second part was conducted to answer the subsequent research question (research question 2). Here, we focused on the perceived value reported in the selected studies. Empirical study results were classified based on the customer value dimensions by Holbrook's model. The classifications were conducted through an iterative process with experts to increase their validity.

3.3. Quality Assessment of Systematic Literature Review

We used four strategies to assess the quality of

<Table 1> Example Excerpt from the Literature

Example excerpt	Characteristic	Types
"*We define crowdsourcing as a four-step process in which: a requestor (either an individual or organization) identifies a specific task to be performed or problem to be solve*"" (p. 826, Nakatsu et al., 2014)	Output: Clear and well-defined tasks and output	crowdsourcing
"In firm-hosted commercial online communities, however, customers not only seek this support service from other customers, they even invest their own time and effort solving fellow customers' problems ... often-times without getting any monetary compensation or other direct rewards" (p. 350, Wiertz and de Ruyter, 2007)	Output: No tangible product output	Commercial community
	Process: usually no monetary reward systems	

<Table 2> Mapping of Online Co-Creation Communities

Name of Community	Input		Transformation							Output for Firm	
	Motivation		Incentives		Task Characteristics						
	Reward	Personal relation-ships	Monetary	Others	With Time Frame	No time frame	Well Identified	Compe-tition	Collabo-ration	Tangible Product	Others
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
Crowd-sourcing community	Usually monetary reward	low	Usually	Not clear	Yes (sometimes)	Yes (sometimes)	High	High	Low	Yes	Yes

the review. 1) The research questions were created in accordance with the protocols recommended by Boell and Cecez-Kecmanovic (2015). 2) To assess the reliability of study selection, we calculated Cohen's kappa as guided by Kitchenham (2007). 3) To validate the process, we engage independent reviewers (Brereton et al., 2007). The inclusion and exclusion criteria were discussed with the independent reviewers. The systematic literature review protocol was assessed by the second and third authors,

and revision made through group discussion. Moreover, transparency was created through the provision of single steps that could be potentially replicated by other researchers. 4) Report validation was done by conducting an independent review (Brereton et al., 2007; Kitchenham, 2007). The review was performed internally with the second and third author conducting an independent review to validate the results initially found by the first author. The report was presented to the second and third authors and revision was made according to their review and suggestions.

Ⅳ. Findings

4.1. Characteristics and Types of Firm-Sponsored Online Communities

Finally, we classified all definitions of online co-creation that we found in the selected literature (<Table 3>). Out of the selected 54 peer reviewed papers, 28 provided a variety of explicit definitions for firm-sponsored online communities and the remaining did not explicitly provide a definition. We found community types differ in the process stage with respect to the level of self-organized capability

<Table 3> Types and Characteristics of Online co-creation Communities

Types and example	Alternative key terms	Description	Characteristics
Open-Source Community Example: music community sponsored by propellerhead software	User content community; 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	• Undefined and unclear tasks • Tangible output • Self-organized people • Shared resources owned in common • Developed a specific culture with communal values, norms, rules, and regulation
Commercial community Example: service support community 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	• No tangible product output • Has a specific area of output about information, ideas, opinion, etc. • Clear mechanisms of contribution designed by the sponsoring firm • Usually no monetary reward systems
Community of Interest Example: Harley Davidson online community	Online brand communities.	An online community that consists of people who share a common interest or passion such as brand or health issues.	• Focus on relationship development • No specific output products • No monetary reward systems • Developed a specific culture with communal values, norms, rules, and regulation • Self-organized people
Crowd-sourcing Example: Starbuck idea	Crowd creation; wisdom of crowd; collective intelligence; Innovation;	A process consisting of requestors who have tasks that they broadcast, followed by a crowd performing the tasks, with the requestors selecting the best solution or integrating the solution.	• Clear and well-defined tasks and output • Explicit reward system (mostly financial) • Private intellectual property rights • Usually, competition based on clear mechanisms of contribution

and the output of the community for the sponsoring firm.

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 et al., 2014; Ståhlbröst and Bergvall-Kåreborn, 2011). Open-source communities are universally shared resources (e.g., music community sponsored by Propellerhead software) and do not have specific monetary reward systems and well-defined tasks. The task is open with no limit on 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 and 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 but it is not limited to that. For example, customers can be a product conceptualizer, product designer, product tester (Nambisan and 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 introductory 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 (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 et al., 2015) (e.g., the Mdjunction.com). These communities have greater freedom of tasks compared 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 and Fang, 2010). Communities of interest tend to develop a strong communal identity through their rules, norms, and vocabularies. For example, in a case study presented by (Seraj, 2012), the members of airliners.net identify themselves as 'the wings of the web.' Mutual trust is essential in this type of community (Zhao et al., 2015) which brings isolated people together to share their experiences and gain an in-depth understanding of one another.

Crowdsourcing communities are characterized by 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 and Zhu, 2014). The members in crowdsourcing are more varied compared to commercial online communities and communities of interest. They gather together to solve problems defined by the initiator firm. Ind and Coates (Ind and Coates, 2013) do not consider crowdsourcing to be a form of value co-creation because of the lack of togetherness in the creation process. However, if crowdsourcing includes participatory activities, where people are invited to contribute their ideas and/or comment on others' ideas, then they may have online co-creation community characteristics. The apparent difference between crowdsourcing communities and the others is the presence of

well-defined tasks (that are mostly time limited). Commercial communities may have tasks such as in Starbucks™ idea but their tasks are not limited by time; are not as specific as in crowdsourcing; and, generally, 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 (and the monetary reward).

4.2. Perceived Value of Online Co-Creation Communities from Members' Perspective

We identified perceived value from members' perspective in 20 out of 54 studies. Using Holbrook's model to classify the value, we merged similar values. For example, sociability, socialize, and emotional bonding is merged into "social connection." As a result, we listed 12 merged values: 1) economy/finance which refers to financial benefit; 2) career which refers to formal career benefit; 3) knowledge/information which refers to expansion of current knowledge; 4)

<Table 4> Mapping Reported Value according to the Holbrook Model

Value	Number of citations	Example
Economic value		
Knowledge/information	10	"*I gain knowledge that I can use to manage the condition better.*" (Laing et al., 2011, p. 305)
Economic/financial	4	"*I hope to get a monetary compensation.*" (Füller, 2006, p. 644)
Career	1	"*Enhance career opportunities*" (Jeppesen and Frederiksen, 2006, p. 55)
Social value		
Reputation	7	"*Consumers may participate in virtual new product development to become visible and get recognition from other participants*" (Füller, 2010, p. 105)
Hedonic Value		
Satisfaction	13	"*Because I enjoy dealing with new products.*" (Füller, 2006, p. 644)
Empowerment	3	"*We take them on a journey for more empowered care … a personal journey and manage it around everything else, like children and family.*" (Barrett, Oborn and Orlikowski, 2016, p. 714)
Community value	3	"*There is quite a sense of community, so that I can view many of the people as 'friends' even though we've never met.*" (Laing et al., 2011, p. 304)
Functional	2	"*Test products and services that are new to the user*" (Ståhlbröst and Bergvall-Kåreborn, 2011, p. 310)
Express creativity	2	"*I enjoy to keep up with new ideas and innovations*" (Fernandes and Remelhe, 2016, p. 320)
Stimulus avoidance	1	"*stimulus avoidance, to avoid the hustle and bustle of daily activities*" (Schaedel and Clement, 2010, p. 28)
Altruistic value		
Social connection	13	"*The constant give-and-take with these folks has led to some very interesting experiences for me.*" (Nambisan and Nambisan, 2008, p. 56)
Ethical value	3	"*Making a better society*" (Ståhlbröst and Bergvall-Kåreborn, 2011, p. 309)

satisfaction/fulfilment/enjoyment which refers to personal desire/pleasure; 5) expressed creativity which refers to self-expression; 6) empowerment which refers to fulfilment gained from achievements, self-direction, and autonomy; 7) community value which refers to feeling of being part of a community, 8) functional which refers to the benefit coming from communal participation and technological mastery; 9) stimulus avoidance which refers to participation in non-routine activities, 10) social connection which refers to the intrinsic satisfaction gained from social relationships, 11) ethical value which refers to the opportunity to serve others usefully; and 12) reputation which refers to satisfaction gained from the respect and affirmation of others. <Table 4> is an illustration of value distribution based on the Holbrook model with the number of citations and the example of the excerpt.

Based on this table, it appears that most value comes from intrinsic motives and is self-oriented. The figure also highlights the dominant value for each cell based on their number of frequencies in the selected studies. The top reported values are knowledge/information (10 studies), satisfaction (13 studies), social connection (13 studies), and reputation (7 studies). Those values are also the most reported in each category based on the Holbrook model.

Ⅴ. Discussions

This study contributes theoretical insight by shedding light on the interactions between participants and the sponsoring firm in the online communities. It does this by distinguishing firm-sponsored online co-creation communities, based on patterns of interaction that create value for all stakeholders. This enhances the existing literature by extending the categorization of online co-creation communities beyond firm and individual participants' perspective alone; by adding a 'self-organized' capability, particularly for firm-sponsored online communities; and by including the perceived value co-created through interactive experiences within a community.

Engaging with online communities has become increasingly important for companies (Liu et al., 2017), as these communities can contribute to the companies' open innovation initiatives through strengthening the relationship between the firm and their consumer for product and service development (Nakatsu et al., 2014; Zhao and Zhu, 2014). Furthermore, online co-creation communities can apply their collective creative skills to engage in the innovation process, and draw attention of organizations to how community members work together (Wu and Fang, 2010; Ind and Coates, 2013).

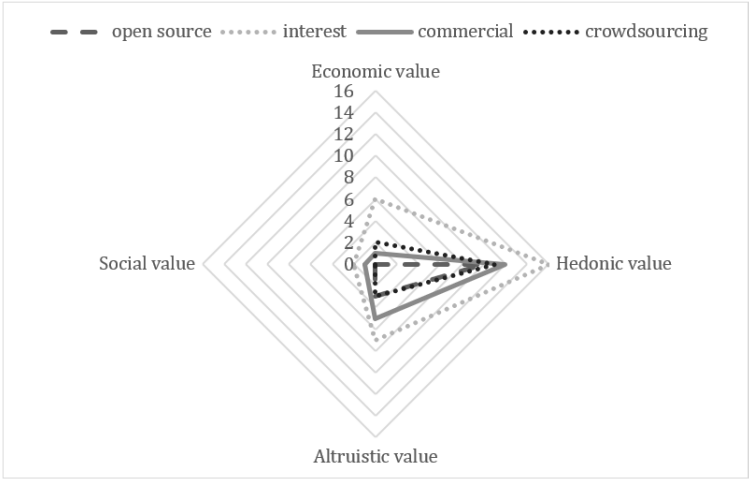
According to the findings of this study, two conceptual dimensions of typology for firm-sponsored online co-creation communities are proposed (<Figure 3>). One dimension is the type of information used by the sponsoring firm (this dimension is extensively explored in the existing literature (Bugshan, 2015; Fredericks and Schneider, 2009; Hippel, 1988). Our results suggest a second dimension – one which represents the interactivity within online communities whereby input is transformed into output. This relates to forms of social interactivity that impact the individuality of efforts (Felin et al., 2017); specifically the forms that aggregate individual efforts to a collective level through the creation of common goals, cooperative practices, and task interdependence.

<Figure 3> Typology of Firm-sponsored online communities

These two dimensions can be explained as follows:

- Low self-organize versus 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 and Lusch, 2010). High self-organization is shown by the agility to respond quickly to any changes required for value co-creation; changes such as self-task distribution or self-leader selection. As a result, with self-organization there is no clear distinction in the interactions between sponsoring firm and members. On the other hand, low self-organization means that the online co-creation communities do not develop rules for themselves and control rests with management of the sponsoring firm. Low self-organization is indicated by high dependency to the sponsoring firm to, for example, resolve disputes and/or organize collective action.
- Market-need versus solution-need oriented. From the sponsoring firm perspective, the information targeted is related to market and solution needs (Hippel, 1988). Information produced by firm-sponsored online co-creation communities thus spans these two types of information. However, 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 orientation, whereas the innovation outcome is equal to solution-need orientation. This does not mean that the market-need is not related to innovation. Either solution-need or market-need may contribute to innovation from the sponsoring firm.

The value of online co-creation communities from individual participants' perspective is illustrated in <Figure 4> which shows value distribution based on Holbrook's model. This shows hedonic value is the most cited value. Secondly, there is no significant variation in patterns of value; in contrast with what was expected, namely a different pattern of value for different online community types. This may be because of the broad array of values and categories of value that exist among participants (Suseno et al., 2018). This indicates that single-use categorization of value (as reflected in the Holbrook model) is no longer adequate. Furthermore, the value perceived by individual participants may have no relation to the self-organize characteristic and the sponsoring firm's perception of objective value. Thus, additional data are required to show more subtle differences. This limitation of the study may also result from the research method utilized in that a systematic literature review is different from meta-analysis in that it produces qualitative data as opposed to quantitative data.



<Figure 4> Mapping Reported Value to Holbrook Model for Each Type of Online Communities

Ⅵ. Future Agenda for Research

Our paper characterises the nature of customers' perceived value through co-creation within various forms of online communities. This can help practitioners identify which online communities best suit their context and business goals. For scholars, our findings from an extensive review of the literature reveal opportunities and challenges that offer direction for future research. The recommendations for future studies are outlined below:

- Types of firm-sponsored online communities create different forms of interactivity. This raises the issue of 'type-relevant' strategy and 'type-induced' consequences for both members and the sponsoring organization. For example, understanding the potential impact of highly self-organized types upon the sponsoring firm. It appears that each type of community offers firms specific benefits and requires specific management compromises. In this respect, to what extent is there a 'best practice' for each type? Furthermore, different types may need different technology to support the interactivity. If so, which technology is suitable for each type?
- The types of online co-creation communities provide a basis for the exploration of forms of interactivity in firm-sponsored online communities. Questions such as when and how an online community should be self-governed or to what extent high/low self-organization is beneficial to value co-creation require more attention. Regarding perceived value from the members' perspective, further exploration is required of the relationship between different forms of value and different types of online co-creation communities. This would include the development of more detailed and nuanced categorizations of individual participants' perceived value.

Ⅶ. Conclusion and Limitation

This paper reviews and synthesizes the research

literature regarding the typology and value creation of firm-sponsored online communities. It sheds light on interactivity in firm-sponsored online communities as the foundation of value co-creation, and proposes greater recognition of the patterns of interactivity as a differentiator of co-created value among types of firm-sponsored online co-creation communities.

The research recognizes and identifies the contextual nature of the reviewed literature; inconsistencies in definitions; the characteristics and types of online co-creation communities; and the value created in these communities for the sponsoring firm and for individual participants. Accordingly, we identified four types of online co-creation communities that can be developed by a firm. The findings show that hedonic and altruistic value are the dominant benefits perceived by individual participants. Our findings, while based on existing research, should facilitate continued inquiry into online community practices in that there may be other types of firm-sponsored online community types that have not been identified in this study. Furthermore, other forms of value for firms and individual participants may exist or be emerging. Extending the study by researching actual practices of firms in this domain would advance our understanding of this complex phenomenon.

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