MASTER THESIS:
THE DEVELOPMENT OF SPONSORED ONLINE BRAND COMMUNITIES: A META STUDY

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The Development of Sponsored Online Brand Communities: A Meta Study

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ABSTRACT: The purpose is to understand the development of sponsored Online Brand Communities (OBCs) by analyzing recent literature and giving recommendations on company development strategies. This is a meta-study. 51 related articles were collected via Scopus and Web of Science and analyzed by conceptual analysis and network analysis. We focus on the development of OBCs, which is analyzed by four sub-questions including the characteristics, development strategies, influential individual factors and impacts of OBCs. There are two parts to the main conclusions to conduct the development strategies of the firms. First, firms need to concentrate on satisfying the hedonic and information needs of consumer participation and attempt to increase consumers' perceived benefits and consumer satisfaction in order to develop the company. Second, in developing OBCs, managers should build a small sized, low- tenure community with high connection to the social networking sites in a creative atmosphere to stimulate customers creating more innovative ideas. Furthermore, the need for firms to open OBCs with appropriate types of products innovation is increasingly important. Therefore, consumers' brand loyalty, community commitment, purchase frequency, customer visit frequency, brand recognition and brand image will increase and thus benefits the firms in the long run.

KEYWORDS: Online brand community, characteristics, development strategies, individual factors and impacts

1. Introduction

In 1995, the idea of brand community was introduced by Muniz and O'Guinn. "Brand community is a specialized, non-geographically bound community, based on a structured set of social relationships among admirers of a brand" (Muniz and O' Guinn, 2001, p. 412). Muniz and O' Guinn (2001) explained that brand community contains not only a shared consciousness and rituals and traditions but also a sense of moral responsibility. Brand community is associated with the branded goods and services and occupies a crucial position in a brand's ultimate legacy (Muniz and Guinn, 2001, p.412).

With the emergence of web 2.0 technologies, online brand communities (OBCs) have been created, which allows the companies to know customers' information in terms of their needs, preferences and desires (Brogi, 2014). OBCs are crucial in practical and scientific field because those have the advantages of acting as the consumer agency, easily sharing information resources and adding social benefits to members (Muniz and Guinn, 2001, p.426). Building an efficient OBC enhances the consumers' communication as an OBC is treated as a useful marketing tool and a communication channel (McWilliam, 2012).

According to Gruner, Homburg and Lukas (2014), the current OBCs research focuses on four streams, including the characteristics of OBCs, participation in OBCs, customer co-production and new product development (NPD) in OBCs as well as OBCs and product success. However, previous studies of OBCs have not provided a systematic framework for understanding the development of OBCs.

Different types of OBCs are described, such as sponsored and spontaneous brand communities (Wu et al, 2014), marketer-created and consumer-created OBCs (Jung, Kim, & Kim, 2014) and a firm-hosted OBC (Gruner et al., 2014). We focus on the sponsored brand communities because many firms are engaged in building a sponsored brand communities to attract customers and gather innovative ideas from customers. Building a firm-sponsored brand communities nurtures customer relationships and enhances customer value (Wu et al., 2014). Sponsored OBC means firms create brand communities through brand pages on social networking sites or their brand websites, and maintain these OBCs continuously.

The objective of this paper is to build a framework for sponsored OBCs to understand the development strategies of OBCs. For the scientific purposes, summarizing the recent variables of sponsored OBCs benefits the researchers by means of understanding the current research on sponsored OBCs. A coherent and elaborated overview of sponsored OBCs could guide the firms to conduct their development strategies.

The Central research question:
What are current insights in the development of online brand communities?

Investigating the impacts of OBCs is beneficial for conducting future company strategy as it potentially drives the firms' performances. The development of OBCs concentrates on the development strategies of the firms. The central research question is studied by the following sub-questions; the characteristics, development strategies, influential individual factors and impacts of OBCs to obtain the strategies of company development.
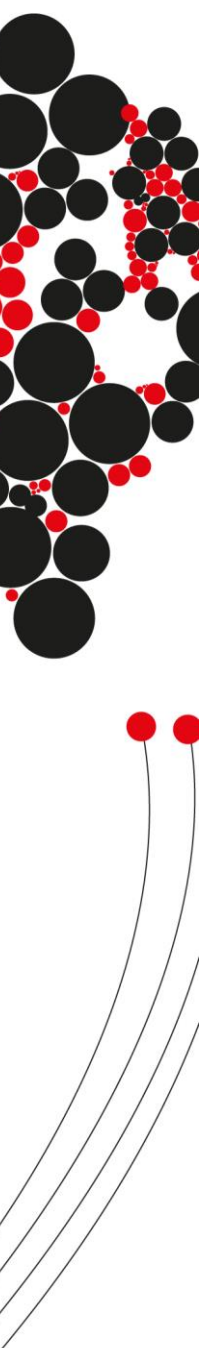
Sub-questions:
(1) What are the characteristics of online brand communities?
(2) What are the development tactics of online brand communities?
(3) What are individual factors which influence the development of online brand communities?
(4) What are the impacts of online brand communities?

After the analysis of four sub-questions, it is expected to find the most representative characteristics of OBCs, the most efficient way of developing OBCs, the most important factors to affect OBCs and the most influential impacts of OBCs to develop efficient firms' strategies.

This paper is structured as follows. It firstly provides theoretical framework focusing on the definition and development tactics of OBCs and develops a basic theoretical framework of OBCs for further analysis, explains the methods articles selection, coding, conceptual analysis and network analysis, presents results and discussion and finishes with conclusions.

2. Theoretical framework

The theoretical framework is described by the definition of OBCs to briefly understand the OBCs and the development strategies of OBCs to comprehend the central research question. Additionally, a fundamental framework for analysing detailed information of the development strategies, characteristics, influential individual factors and influences of

OBCs are explained in the next sections to recommend some efficient development tactics of OBCs for the firms.

2.1 *Definition of online brand community*

Prior to use the Internet, brand community members had face-to-face meetings (offline brand communities) and were restricted in some locations (geographically bound brand communities) (Madupu and Cooley, 2010). Madupu and Cooley (2010) continued introducing the first brand community Harley Owners Group (HOG), which is created by Harley-Davidson Company in 1983. With the constraints of locations and time, community members mostly were not able to have adequate communication and interactions. Taking the advantage of primarily use of Internet, brand community is "a specialized, non-geographically bound community, based on a structured set of social relations among admirers of a brand" introduced by Muniz and O'Guinn (2001, p. 412). Compared with traditional communities, the added value of the new brand community is community members have interests, admires and love to a specific brand in the commercial settings (Albert, Merunka and Valette-Florence, 2008). Different brand communities are identified and distinguished because of their branded products.

The web 2.0 technologies refer to sharing videos, using blogs and social booking and networking, which are widely applied to simply exchange information and build relationships associated with brand consumption (Fournier and Avery, 2011). With the basis of Web 1.0 delivery of content via Internet, Web 2.0 further focuses on the participation and connectivity in the Internet communities (Adebanjo and Michaelides, 2010). Due to the shift from web 1.0 to web 2.0, Fournier and Avery (2011) emphasize that online consumers have more power than the marketer now than before and create more potential risks to the firms. In this context, consumers are able to share information and criticize the firms easily.

By combining the concept of brand community with web 2.0 context, Fuller, Jawecki and Muhlbacher (2007) described the definition of online brand community is a brand community that community members' communication and interactions are done virtually. The key element of OBCs is the success of brand, which is dependent on the relationships and interactions among community members (Jang, Olfman, Ko, Koh and Kim, 2008). When consumers participate in an OBC, they could have possibilities to knowledge-sharing and simply passion-expressing, which simultaneously affects the consumer-brand relationships (McAlexander, Schouten and Koenig, 2002).

OBCs could be created and maintained in two ways; the first one is the sponsor-initiated community, which means companies are responsible for establishing and maintaining the OBCs. The other way refers to organization-sponsored brand community that OBCs are created and managed by the independent individuals (Madupu and Cooley, 2010). Sponsor-initiated community is also named as a sponsored brand community (Wu et al., 2014) and marketer-created brand community (Jung et al., 2014), while spontaneous brand community (Wu et al., 2014) and consumer-created brand community (Jung et al., 2014) refer to organization-sponsored brand community. Sponsored OBC is the object of this research.

2.2 Development strategies of OBCs

We described the development of OBCs by means of development strategies. To manage the relationships between members in community and brand in brand communities effectively, firms should create a cohesive brand community, meaning that all members could share the brand experiences and value as well as build the relationships in the communities. Brand communities can be developed by the companies through providing resources, such as funds, staff and place, transferring care and rewards to the community and sharing consumers' consumption experiences. Based on the style, personality, feeling and values of the brand, companies could also create, sponsor and join some related activities for a brand community (Zhou et al., 2012).

2.3 Basic framework for analyzing OBCs

To analyse the data effectively and logically, the basic framework of OBCs is given in Figure 1. Development strategies of OBCs refer to how firms could develop the companies, which includes the description of definition and characteristics of OBCs. Then, to gain more insights into OBCs to enhance the firms' efficiency on development strategies, the influential individual factors and impacts of OBCs are also taken into account.

Figure 1 Analysis of the development of OBCs

Influential individual factors of OBCs → Development strategies of OBCs → Impacts of OBCs

3. Approach: Meta study

3.1 Introduction

Introduced by Crombie and Davies (2009) p.1, meta-study is "a statistical technique for combining findings from independent studies", which offers solutions for practical difficulties and reaches high effectiveness. The valid degree of meta-study is derived from the quality of systematic review. Systematic review is the key of meta-study, which emphasizes gathering all relevant studies, doing the design quality assessment and executing this method (Petticrew, 2006). The aim of applying systematic review is to summarize the existing research impartially and make effective decisions (Crombie and Davies, 2009). The procedures of conducting this meta-study in Figure 2, named as four-phase approach, are firstly carefully selecting the articles, coding the vital variables for the sub-questions, and divide the variables into two parts; empirically tested variables belong to network analysis while conceptual tested variables are used into conceptual analysis.

Figure 2 Four phases approach in this meta-study
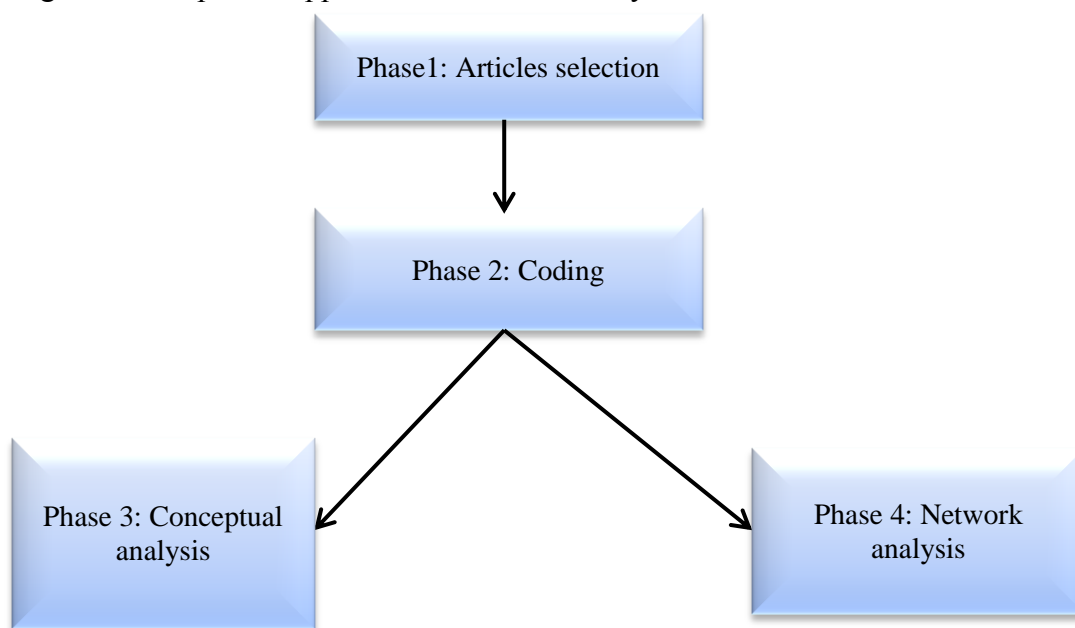
3.1.1 Articles selection

Through reviewing the past literature, the information of the characteristics, development tactics, influential individual factors and influences of OBCs was gained. Articles selection was composed of two parts; articles selection before data analysis as well as articles selection during data analysis. Articles selection before data analysis was conducted by an evidence-based approach. An evidence-based approach to scoping review from Landa et al., (2011) was used to guide on how to do the systematic literature review because this approach has repeatable and documented characteristics and provides measurable, visible, objective and verifiable research quality as well as guarantees the objectivity of results. This approach includes four main steps; define and refine research search terms (step 1); identify databases and search engines (step 2); create and apply the inclusion and exclusion criteria filters (step 3) and verify the sub-selection is representative for the total papers available(step 4) (Landa et al., 2011). The detailed information of selecting articles before analysis is in Appendix B. However, because of the constraints of search engines, primary selected articles in the first part articles selection before data analysis may still contain irrelevant articles. Articles selection during data analysis was done by carefully reading the texts of each article and checking the relevance with the research questions. Articles selection is a reliable and valid approach because the articles were searched by two representative search engines.

(1) Articles selection before data analysis;
Step 1: Define and refine research search terms
Based on the sub-questions, the keywords were gained from analysing the sub-questions. The synonyms of keywords were found from reviewing the first ten articles with high relevance of the keywords on Scopus as well as checking the keywords on Thesaurus until the new terms peer out (Landa et al., 2011) in order to be certain that the keywords were fully covered. To double check the reliability of the synonyms of search keywords, the synonyms were tested by Mechanical Cinderella, known as normalized Google distance. The function of the Mechanical Ciderella is to test the associations between words online (Šlerka, 2010). The lower numbers in the result matrix shows the higher

probabilities of keywords co-occurrence. By checking the link of www.mechanicalcinderella.com (Šlerka, 2010), the probabilities of co-occurency between keywords and synonyms were below 0.5, which indicates those keywords and synonyms were correlated as the cut-off point is 0.5.

Step 2: Identify databases and search engines
Three important search engines "Scopus" "Web of Science" and "Google Scholar" were applied because "it helps reveal a more accurate and comprehensive picture of the scholarly impact of authors" (Meho et al., 2007). However, compared with Google Scholar, Web of Science might have a more flexible and faster citation analysis (Franceschet, 2010). Simultaneously, Web of Science and Scopus have the same citation analysis tools. Therefore, Scopus and Web of Science were the main search engines in this research. While searching the exact phrases by keywords and search strings, braces were applied for Scopus (Finding phases on Scopus, 2014) and quotation marks for Web of Science (Web of Science Search Rules, 2009).

Step 3: Create and apply the inclusion and exclusion criteria filters
(1)Language-English, (2) Year 2010-2015 and (3) Titles and abstracts on the search engines are the inclusion criteria to choose the articles which match the sub-questions. In this case, Articles in English within the year range from 2010 to 2015 and are consistent with the research questions were selected. For example, the article of Baldus et al., (2014) significantly tested the influences of 11 independent motivations on consumer participation, which belongs to sub-question 3 the influential individual factors of OBCs. In addition, this article was written in English in 2014, which met three requirements.

Step 4: Verify the sub-selection is representative for the total papers available
The method of how to gain and evaluate the data was recorded for high reliability. Re-running the sub selection filters and benchmarking the abstracts is an approach to test the representative data (Landa et al., 2011). As this research is mainly systematic literature review, the reliability of the results is derived from the authors of the collected articles.
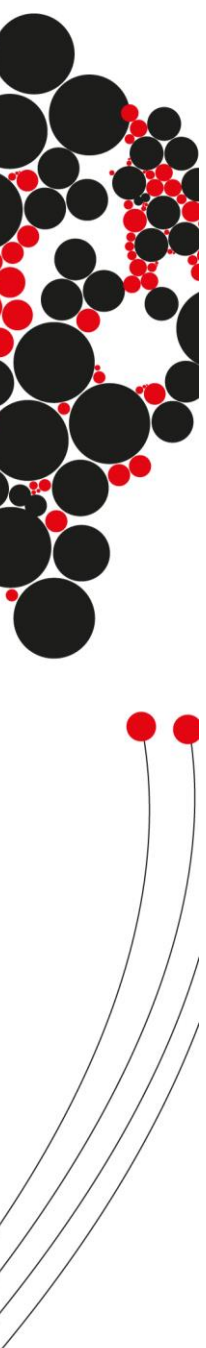
(2) Articles selection during data analysis

In this part, all selected articles are coded in a codebook based on four sub-questions; characteristics of online brand communities; development tactics of online brand communities; individual factors which will influence the online brand communities and impacts of online brand communities. If the articles were not strongly related to the sub-questions and are not written in English because of constraints of search engines, they were sorted simultaneously. For example, the article of Palazon et al., (2014) is written in Spanish besides the title "The Role of Social Networks in Generating Brand Love". The researcher was not able to understand the article, so this article was excluded. Additionally, the article named as "The Effects of Online Brand Communities on Brand Equity in the Luxury Fashion Industry" by Brogi et al., (2013) indicates the spontaneous OBCs instead of the sponsored OBCs. Therefore, it was also not included.

3.1.2   Coding

While searching the appropriate articles in the meta-study, coding is a technique to help making the work efforts and choices explicitly. Coding is to classify or categorize

individual pieces of data and coupled with some kind of retrieval systems for qualitative research (Babbie, 2007). As this research is mainly theoretical, coding the data in a codebook via Spreadsheets fasters the coding process. According to Babbie (2007), codebook refers to the documents that group different data items into one file for processing and analyzing.

As this research has four sub-questions, the total 51 articles were sorted into four types including the characteristics, development tactics, influential individual factors and impacts of OBCs. It thus has great importance to recognize where those elements are located. Sub-question 1 the characteristics of OBCs were shown mostly in the introduction or the literature review part of selected articles. Sub-question 2 development tactics could be found from the title, conclusion or the implication. The answers of sub-questions 3 and 4 were gained from the whole articles especially the hypotheses and results. The data has to be certain whether the hypotheses are positive/negative/effects/no effects or significantly positive/negative/effects/no effects.

Each type of articles was coded in Spreadsheet 1 background information (short names and full names of articles, year of publishing, the authors of articles and the journals articles are from), Spreadsheet 2 scientific output (independent, dependent variables and their relationships, method and results of research), Spreadsheet 3 aggregation of concepts (to aggregate all the synonyms to one word) and the total data was combined in Spreadsheet 4 final document summary of previous information for the network analysis (Appendix C). Spreadsheet 1 was the basis for tracing back the wrong data in Spread 2, 3 and 4 while Spread 2 was the primary step to analyze the data. In Spreadsheet 3 aggregation of concepts, it includes reference number of the articles, independent and dependent variables and their relationships. There is also an efficient way to save time for the later research. Firstly, analyze the variables in ten articles and consider how deep the research variables could be. For example, in the article of Lee et al., (2011), they tested the relationship between community identification and brand loyalty (behavioral brand loyalty, attitudinal brand loyalty and oppositional brand loyalty). Whether to code brand loyalty in general or specific types of brand loyalty or not should be decided. Sorting tool in Microsoft Excel is used to find and aggregate the repeatable variables by ascending or descending. The uncertainty variables for aggregation were checked from the original articles according to the reference numbers. Spreadsheet 4 final document of summary summarized all relationships in the articles. In case of the repeatable variables, all variables were aggregated via sorting. Some words should be double confirmed from the original articles once they are potential correlated. For example, some researchers checked the motives of individual factors on consumer participation. Hedonic motive was discussed by Baldus et al., (2014). However, there was still a synonym entertainment that Madupu and Cooley (2015) were used. Then, to confirm the definition of entertainment is the same as hedonic, I have checked from the original texts for aggregation. Coding the articles might have two circumstances; articles conceptual research and empirical research. Variables in articles with conceptual research and empirical research were further analyzed into conceptual analysis and network analysis respectively.

In order to reach high reliability of the research, the codebook was test-retested. As expected from test-rest method, the second analysis should be the same as the first one (Babbie, 2007). After two times checks of the analysis data on the codebook, the independent and dependent variables were verified and revised because those variables have to be tangible and specific. Those data was coded and double checked by one

researcher, so this research is valid but reliability still needs to be improved. For example, more researchers could code the data simultaneously and check the differences in order to increase the reliability of the coding procedure. It also poses the potential risks of reliability for the conceptual and network analysis.

3.1.3 Conceptual analysis

Introduced by Nuopponen (2011), there are plenty of tools for systematic conceptual analysis. The basics model refers to the combination of the basic information needed for writing definitions for concepts, which was applied in analyzing sub-question 1 the characteristics of OBCs. The second tool causal relation was used to understand the relations between development strategies of OBCs and firm performance in sub-question 2. Furthremore, content analysis, the qualitative research technique, was employed in sub-question 1 and 2. The steps are as follows (Krippendorff, 2012). (1) Problem formulation; (2) Sample range and size; (3) counting and coding; (4) Interpreting the data.
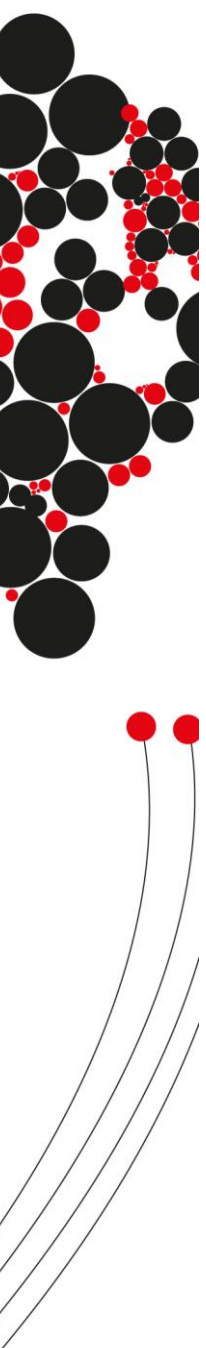
Sub-question 1: The characteristics of OBCs
The articles related to the characteristics of OBCs are conceptual, which were analyzed by benchmarking the code frequencies of discussing the types of characteristics of OBCs in each article.

Sub-questions 2: Development tactics of OBCs
Regarding the most useful method of developing of OBCs, two criteria were adopted to compare the approaches. The empirically studied results seem to be more important than that in the conceptual studies (empirical articles are counted as "1" while conceptual articles with "0"). In addition, the frequencies of developing OBCs were coded as the second criterion (articles with the same way of establishing OBCs are calculated as "1" and articles with different ways of creating OBCs with "0").

3.1.4 Network analysis

A social network contains actors and the one or more relations between these actors. "Social structure can be represented as networks- as sets of nodes (or social system members) and sets of ties depicting their interconnections" (Wellman and Berkowitz, 1988, p.4). Network analysis has advantages of simple use, allowing in comparisons of different domains and obtaining new types of insights. It also poses opportunities to characterize changes over time to examine data annually and examine whether hypotheses are empirically validated (Van de Wijngaert et al., 2014). Many computer software packages are increasingly applied for network analysis. Gephi software is an instrument to be used in this study. Gephi software is applied to combine independent variables with dependent variables to transfer the collected data into network. "Gephi is an open source network exploration and manipulation software" (Bastian et al., 2009, p. 361), which calculates network metrics and visualizes the concrete information of OBCs. Bastian et al. (2009) further explained that the function of Gephi software is to provide a platform in which networks can be imported, visualized, spatialized, filtered, manipulated and exported. Compared with the other softwares Pajek, NetworkX and igraph, Gephi not only has the capabilities of virtualization but also simplicity to use because of its ergonomics and customized rendering (Combe et al., 2010). The articles of development of OBCs, individual factors which will influence OBCs and impacts of OBCs are empirically studied and tested, which suits for the network analysis by using Gephi software. Among network parameters, degree and modularity are chosen because degree

is applied to search the high extent that a node is connected with the other nodes in a network under the non-directed binary graph (Knoke and Yang, 2008) and modularity is used to find the dense connection between nodes (Molennaar and Lerner, 2013). On Gephi, in terms of the influential individual factors of OBCs, the measurement tool was the degree in the network. The impacts of OBCs were observed from the directed graphs in the individual factors-impacts network of OBCs through using the filer of degree range from 11 to 76 instead of 1-76. This network is associated with the influences of individual factors on OBCs and effects of OBCs, which refers to the relationship between consumer participation and brand loyalty. 75.27% of all the relationships are empirically tested, which relatively increases the validity of this investigation.

3.1.5 Summary of the phases

In summary, the above four phases approach was described shortly as follows. Phase 1 article selection is divided into two procedures; articles selection before analysis and during analysis. In the process of articles selection before analysis, articles were selected by defining key words, selecting search engines and the inclusion/exclusion criteria. Due to the constraints of search engines that several irrelevant articles are still included in the selected articles, the second articles selection during analysis was done by carefully reading texts and double sorting articles via inclusion criteria. Therefore, I received the total amounts of articles to be ready for analysis. Phase 2 coding is to code the four sub-questions into Spreadsheet 1 background information, Spreadsheet 2 scientific output, Spreadsheet 3 aggregation of concepts and the total data was combined in Spreadsheet 4 final document summary of previous information for the network analysis. Then, conceptual articles and limited number of empirical investigated articles were analyzed by conceptual analysis (phase 3) and empirical articles were for network analysis (phase 4). In phase 3, methodological technique content analysis was applied to analyze the conceptual articles. In phase 4, network analysis was conducted by analyzing the relationships of variables by means of degree and modularity in Gephi software.

3.2 Analysis of articles selection

3.2.1 Articles selection before data analysis

(1) Define and refine research search terms

Table 1 Synonyms

Search keywords	Synonyms				
Online brand community	Virtual brand community				
Online brand communities	Virtual brand communities				
Characteristics	Phases	Features	Categories	Aspects	Attributes
Development	Drivers				
Impacts	Effects	Influences			

(2) Identify databases and search engines
The numbers of articles gathered were 92 (Web of Science) and 84 (Scopus).

(3) Create and apply the inclusion and exclusion criteria filters
By applying the inclusion criteria, 61 articles are selected. According to the sources report, the topic eight selected journals are Journal of Business Research, Technovation, Journal of the Academy of Marketing Science, Journal of Marketing Communication, Journal of Brand Management, Information and Management, Cyberpsychology Behavior and Social Networking and Computers in Human Behavior on Scopus because they have published more than 2 articles of OBCs from 2010 to 2015..

(4) Verify the sub-selection is representative
The sub-selection is representative.

3.1.3 Articles selection during data analysis
The number of articles accurately selected to analyze for the network analysis are 51.

3.3 Analysis of coding

Regarding 4 sub-questions, they have different analysis approaches (Table 2-8).

Sub-question 1: What are the characteristics of online brand communities?

Sub-question 1 the characteristics of OBCs only needs to be analyzed by background information because articles related to the characteristics of OBCs are conceptual without any relationships.

Table 2 An example of Spreadsheet 1 background information of the OBCs characteristics

1. Background Information and scientifc output- OBCs characteristics							
Reference No.	Short	Title	Year	Authors	Name journal	Method	Result
2	CEIOBC: ASMP	Consumer engagement in online brand communities: A social media perspective.	2015	Laurence Dessart, Cleopatra Veloutsou and Anna Morgan-Thomas	Journal of Product & Brand Manageme nt	Literature review	Three characteristics of brand communities: consciousness of kind, moral responsbility and shared rituals and traditions (Muniz and O' Guinn 2001;Schau and Muniz 2007)

Sub-question 2: What are the current development tactics of online brand communities?
Sub-question 2 development strategies of OBCs include the background information and scientific output. However, eight articles match the development strategies of firms, which is insufficient to be analyzed in network analysis.

Table 3 An example of Spreadsheet 1 background information of development strategies of OBCs

1. Background information- Development strategies of OBCs					
Reference No.	Short	Title	Year	authors	Name journal
5	FOBCANPS	Firm-hosted online brand communities and new product success	2014	Richart L. Gruner, Christian Homburg, Bryan A. Lukas	Academy of Marketing Science

Table 4 An example of Spreadsheet 2 scientific output of development strategies of OBCs

2. Scientific output-Development strategies of OBCs						
Reference No.	Short	Independent	Dependent	Relationship	Method	Remarks (for my own record)
5	FOBCAN PS	Community types	New product success	Significant effects	A cross-industry analysis of 81 firm-hosted OBCs and a subsequent suvey of 170 community-hosting firms in the consumer durable goods industry	An open OBC suits for radical innovation while discerning OBC for incremental innovation.
		Community types	Product innovativeness	Significant effects		
		Community types	Product introduction timing	Significant effects		

Sub-question 3: What are individual factors which influence the development of online brand communities? and Sub-question 4: What are the impacts of online brand communities?

Sub-questions 3 and 4 are more complex because variables are empirically tested and should be aggregated, so it contains four Spreadsheets background information, scientific output, aggregation of concepts and summary of concepts.

Table 5 An example of Spreadsheet 1 background information of influential individual factors and impacts of OBCs

1. Backgound inforation of influential individual factors of OBCs					
Reference No.	Short	Title	Year	authors	Name journal
20	MBACEIOBC	Managing brands and customer engagement in online brand communities	2013	Jochen Wirtz, B. Ramaseshan, Joris Van de Klundert, Zeynep Gurhan Canli and Jay Kandampully	Journal of Service Management

Table 6 An example of Spreadsheet 2 scientific output of influential individual factors and impacts of OBCs

2. Scientific output-Influential individual factors of OBCs					
Reference No.	Short	Independent	Dependent	Relationship	Method
20	MBACEIOBC	Brand identification motive	Consumer engagement	Positive	Literature review. The study provides a synthesis of the extant OBC literature to furthe our undertsnading of OBCs, and also puts forth furture prioristies for OBC research.
		Brand's symbolic function motive	Consumer engagement	Positive	
		Social benefits motive	Consumer engagement	Positive	
		Uncertainty avoidance	Consumer engagement	Positive	
		Information quality	Consumer engagement	Positive	
		Monetary and explicit normative incentives	Consumer engagement	Positive	

Table 7 Example of Spreadsheet 3 Aggregation of variables for influential individual factors and impacts of OBCs

3. Aggregation of variables of influential individual factors of OBCs				
Reference No.	Short	Independent	Dependent	Relationship
20	MBACEIOBC	Brand identification motive	Consumer participation	Positive
		Brand's symbolic function motive	Consumer participation	Positive
		Social benefits motive	Consumer participation	Positive
		Social identity motive	Consumer participation	Positive
		Uncertainty avoidance	Consumer participation	Positive
		Information quality	Consumer participation	Positive
		Monetary and explicit normative incentives	Consumer participation	Positive

Table 8 Example of Spreadsheet 4 Final summary of variables of influential individual factors of OBCs for influential individual factors and impacts of OBCs

4. Final summary of variables of influential individual factors of OBCs				
Reference No.	Short	Independent	Dependent	Relationship
20	MBACEIOBC	Brand identification motive	Consumer participation	Positive
		Brand's symbolic function motive	Consumer participation	Positive
		Social benefits motive	Consumer participation	Positive
		Social identity motive	Consumer participation	Positive
		Uncertainty avoidance	Consumer participation	Positive
		Information quality	Consumer participation	Positive
		Monetary and explicit normative incentives	Consumer participation	Positive

After the coding process, the total of 51 articles was sorted into four sub-questions in Table 9. According to different types of analysis conceptual or empirical, those data could be further analyzed by conceptual analysis as well as network analysis (Appendix B).

Table 9 Results of coding

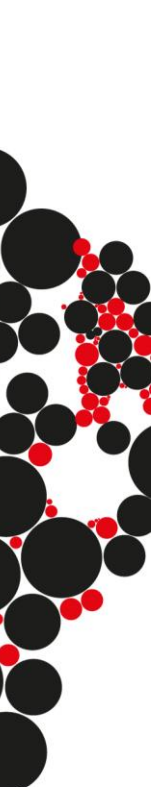| Sub-questions	Total number of selected articles
(1) Characteristics of OBCs	20
(2) Development tactics for OBCs	8
(3) Influential individual factors on OBCs	21
(4) Impacts of OBCs	22

4. Results

4.1 Characteristics of online brand communities

Sub-question 1 the characteristics of OBCs are to investigate the characteristics of OBCs and obtain a deep understanding of the concepts of OBCs. Based on the data analysis in Table 3, the characteristics of OBCs are as follows;

(1) Consciousness of kind, moral responsibility and shared rituals and traditions

Muniz and O' Guinn (2001) firstly introduced three characteristics of brand communities: consciousness of kind, moral responsibility and shared rituals and traditions. Consciousness of kind is "the intrinsic connection that members feel toward one another and the collective sense of difference from others not in the brand community" (Muniz and O'Guinn, 2001, p. 413). Members obtain a feeling that they are more connected with each other. Schau and Muniz (2002) further explained that "we" as well as "us" were employed by the members for distinction purpose compared with non-members. Moral responsibility is conceptualized as "a felt sense of duty or obligation to the brand community as a whole, and to its individual members", which is offered by two ways

(Muniz and O'Guinn, 2001). The first way is to have members' integration and while members' assistants properly for using brand belong to the other way. McAlxander et al., (2002) supported those ways that helping new members to correctly use products enhances customers to own recognition and status. "Conventions or practices that set up visible public definitions and social solidarity and perpetuate the brand community's shared history, culture and consciousness" are regarded as the concept of shared rituals and traditions (Muniz and O'Guinn, 2001). Rituals and traditions is often centrally located on shared consumptions experiences the brand (Muniz and O'Guinn, 2001). It is manifested by shared history, culture and consciousness, and celebrating unique events, sharing brand history and stories (Beaudouin and Velkovska, 1999; Muniz and O'Guinn, 2001).

(2) Self-selection and stratification based on their interests on a specific brand with dispersed geographical boundaries

Amine and Sitz (2004) explained that the characteristics of OBC are self-selection and stratification based on their interests on a specific brand with dispersed geographical boundaries, so that members obtain the shared values and practices, social symbols and members' identities.

(3) Information quality, system quality, interaction and return of activity
Seo (2005) continued formulating four basic characteristics of OBC, that is, information quality, system quality, interaction and return of activity. Information quality means that community members are able to gain the newest and reliable firm and members' information. The quality of BBS website is meant by system quality, which is composed of beauty, convenience, visiting speed etc. Interaction refers to members and firms exchange information and emotions. Returns of activity mean that the active members in the community are capable to receive the financial and psychological returns including the material reward, the increases of rights in the community, and most faithful members' promotion.

(4) The level of participation, the percentage of quality of relationship, the degree of identification and the level of quality of communication
The recent study of Brogi (2014) points out that the characteristics of OBCs include four main factors: the level of participation, the percentage of quality of relationship, the degree of identification and the level of quality of communication. The level of participation indicates the degree of interactions between members, which positively connected with the innovation and value creation procedures. The percentage of quality of relationship is evaluated by customers' satisfaction in the perspectives of sharing and obtaining benefits. Additionally, the degree of identification illustrates that members have its own recognitions to be involved in the community, which differs with the non-members. The above three elements have positive influences on consumer loyalty and community promotion. The last point communication quality is judged by timeliness, relevance, frequency and duration, which is positively influenced by strong abilities members and affects purchase decisions.

In conclusion, after the analysis of the above four types of characteristics of OBCs, the characteristics of OBCs consciousness of kind, moral responsibility and shared rituals and traditions are the most representative one as shown in Table 10 based on the citations of these articles.

Table 10 Articles containing characteristics of OBCs

Characteristics of OBCs	Code frequencies
(1) Consciousness of kind, moral responsibility and shared rituals and traditions (Muniz and O'Guinn, 2001)	17
(2) Self-selection and stratification based on their interests on a specific brand with dispersed geographical boundaries (Amine and Sitz, 2004)	2
(3) Information quality, system quality, interaction and return of activity (Seo, 2005)	2
(4) The level of participation, the percentage of quality of relationship, the degree of identification and the level of quality of communication (Brogi, 2014)	1

4.2 Development strategies for online brand communities

Sub question 2 development tactics of OBCs is to investigate how the companies develop their OBCs. The three OBCs development tactics are highly related to OBCs atmosphere, OBCs size, tenure and connection with social networking sites and OBCs types. Thus, the firms might create more innovate products/ services and firms' performances could be enhanced. In Table 11, creating climate, community size, tenure in community, consumers' connection to social networking sites, consumers' interest concentration and community types didn't have significant differences, so all development tactics are treated equally important.

Table 11 Comparison of eight articles in terms of types of research and repeatable development approaches

Development strategies for OBCs	Amounts
Creative climate	2
Community size	1
Tenure in community	1
Consumers' connection to social networking sites	1
Consumers' interest concentration	1
Community types	1
The other approaches	0

(1) OBCs creative climate
According to Mathwick (2006), with the spread of Social Media, OBCs become a crucial tool to build firm-customer relationships. Fuller, Bartl, Ernst and Muhlbacher (2006) state that collecting customer' ideas especially the generation of innovative ideas and into NPD is to highly involve customers by employing OBCs. Schau, Muniz and Arnould (2009) also motivate customers to be engaged in new product design and launch. To increase the level of new product creativity in OBCs, creative climate and creative capabilities of an OBC built by the firms are becoming significantly important. Based on Ekvall (1996), a creative climate indicates the elements which drive or stop creative and innovative activities. Introduced by Teece, Pisano and Sheuen (1997, p.516), dynamic capabilities

refer to the abilities of organizations that 'integrate, build and reconfigure internal and external competencies to address rapidly changing environments'. A creative capability is required to creative superb performance on the basis of a creative climate of OBCs (Cheng et al., 2013). The empirical research from Cheng et al., (2013) showed that a creative climate impacts meaningfulness of new product creativity (the extent to which the new product belongs to the same category of the existing products; Rubera, Ordanni and Griffith, 2011), the creativity capabilities are positively associated with meaningfulness and novelty of new product creativity(the extent to which the new products differ with the existing products; Im and Workman, 2004) and the interaction of a creative climate and creativity capabilities is positively related with firm's meaningfulness and novelty of new product creativity. Thus, a creative climate needs the interaction of complementary abilities until the value is realized (Cheng et al., 2013). To develop the new products, firms should firstly build an appropriate creative atmosphere and match suitable creativity capabilities, which will increase the degree of creativity and innovation of the products and efficiency of building an OBC.

(2) OBCs size, tenure and connection to social networking sites
Customer participation and innovative contribution have significant importance. Factors that influence the contribution of consumers' innovative ideas are group size, tenure and connection to social network sites on the organizational level (Li and Kim, 2010). The first element active group size had significant negative influences on innovative ideas contribution because individuals are difficult to understand the others and gain social benefits in the community with large size (Fulk et al., 1966). Tenure means increasing resources as well as decreasing costs of contribution. During using company products, customers create their innovative ideas and thus decrease the costs of contributing new ideas. However, if clients lose their interests of products in the long term or firms fail to provide resources, creating knowledge or new ideas become insufficient. Additionally, the firm's connection to social networking sites positively increases the number of customers' innovative ideas. Due to the reason that social networking sites are the platforms for customers to have communication and ideas-sharing, connection to social networking sites is the key to increase innovative ideas (Li and Kim, 2010).

(3) OBCs types
Companies build the sponsored OBCs for reaching the new product success in the market (Fuller et al., 2008). Through identifying the sales and market shares of three types of OBC, Gruner, Homburg and Lukas (2014) concluded that three types of OBCs (Open OBC, Discerning OBC and Restricted OBC) are suitable in some particular circumstances. Open OBC with the characteristics of high community access, low activity controls and moderate host integration is more successful for radically innovative products than Discerning OBC or Restricted OBC. Discerning OBC is more appropriate for incrementally innovative products because of its moderate community access, moderate activity control and high host integration (Gruner et al., 2014). New products success could be determined by the OBCs types.

To sum up, the most useful development strategy is to build a small sized and tenure and high connections with social networking sites in an innovative atmosphere for innovation and to match the suitable OBCs types with new products success.

4.3 The influential individual factors and the impacts of online brand communities

Sub-question 3 the individual factors that affect the impacts of OBCs will be shown with a network analysis. As expected, there is a most important individual factor to affect OBCs and the most influential impacts of OBCs as given below.

(1) Modularity

The individual factors that influence consumer participation in OBCs are analyzed by modularity. Modularity refers to community detection algorithm, which is a measure of strength of dividing a network into modules. High modularity networks "have dense connections between the nodes within modules but sparse connections between nodes in different modules" (Molenaar and Lerner, 2013). In this network (Figure 3), modularity score is 59.0%, meaning that the nodes have dense connections with each other. The nodes which have a direct relationship with consumer participation have no modularity with 0 while level of quality communication; purchase decisions and high competences consumers have the highest modularity of 13 degrees. In total, there are 13 clusters in the network (Table 3). Clusters of consumer participation, consumer interactions, brand trust and emotional attachment have occupied the top four biggest because they have 34.32%, 11.24%, 11.24% and 10.06% of the total clusters. The proportions of those four clusters are greater than the others with less than 10% proportions. The bigger the clusters, the more variables exist in the cluster. Consumer participation is the biggest cluster in this network of OBCs (Figure 4).

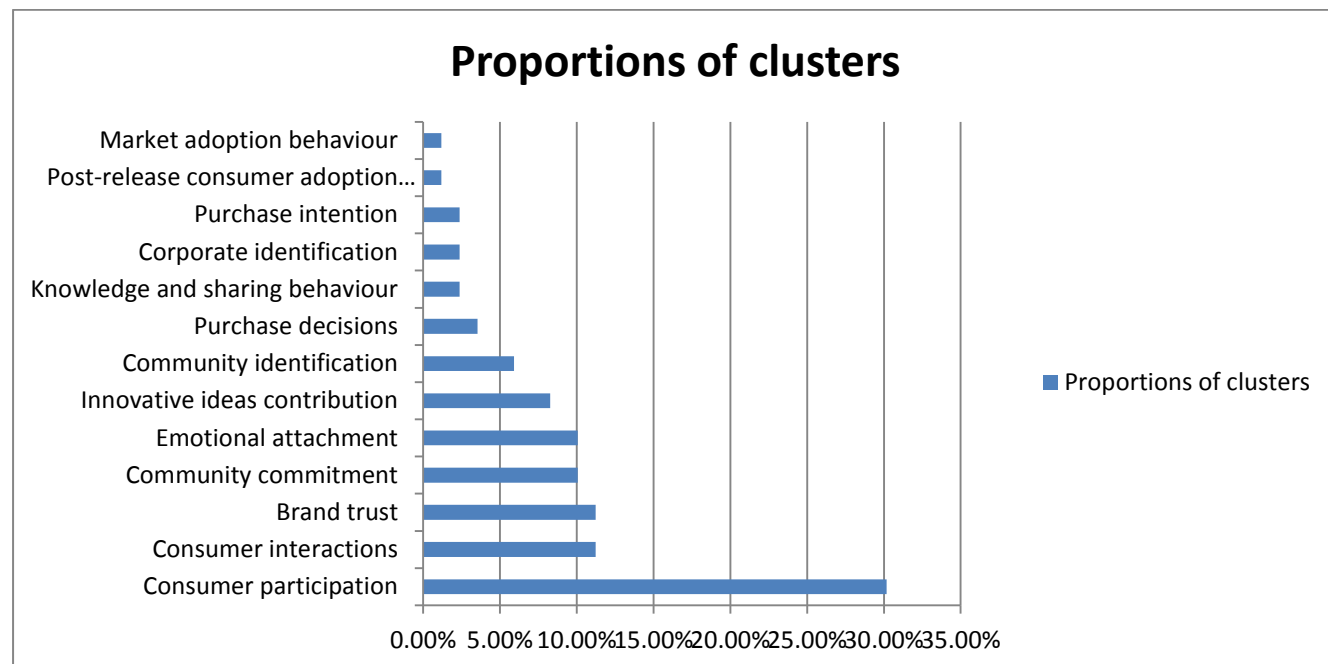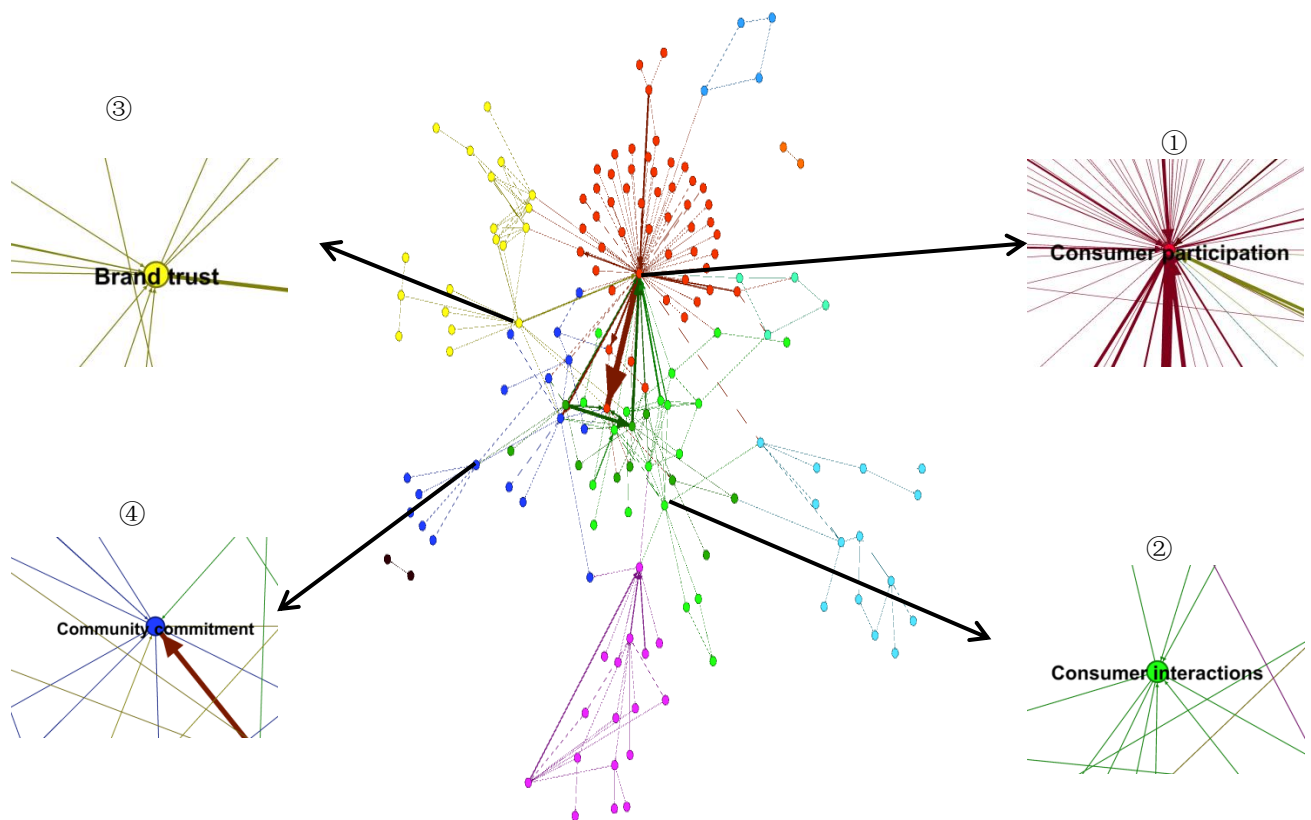Figure 3 Overview of clusters of OBCs network

Figure 4 Top four biggest clusters of individual factors-impacts relationships in OBCs network

(2) The influential factors of consumer participation in OBCs

Consumer participation is mainly influenced by the individual factors such as consumers' hedonic, utilitarian needs, community trust, community identification, perceived benefits, and information sharing in Figure 5. However, not all variables are empirically tested. Hedonic needs have significant effects on consumer participation. Hedonic needs mean consumers are expected to gain hedonic rewards such as fun, enjoyment, entertainment, friendly environment and social status through participation (Baldus et al., 2015). Once consumers' hedonic needs are satisfied, firms' consumer participation changes simultaneously. In addition, information has significant negative relations with consumer participation, which indicates the consumers motivated by brand and products well-information to participate have less participation rates than not informed consumers (Baldus et al., 2015). Consumer's satisfaction and perceived benefits also have significant positive effects on consumer participation. The reason why consumers participate into the OBCs is the satisfaction of their brands (Li, 2011), so the degrees of consumers' satisfaction determine the number of consumer participation. Perceived benefits show that consumers are engaged in OBCs because of the offered economic incentives (Zheng et al., 2015). The more perceived benefits consumers are able to obtain, the more people will participate into OBCs. The other conceptual variables need to be further checked and confirmed.

Figure 5 The influential individual factors of consumer participation
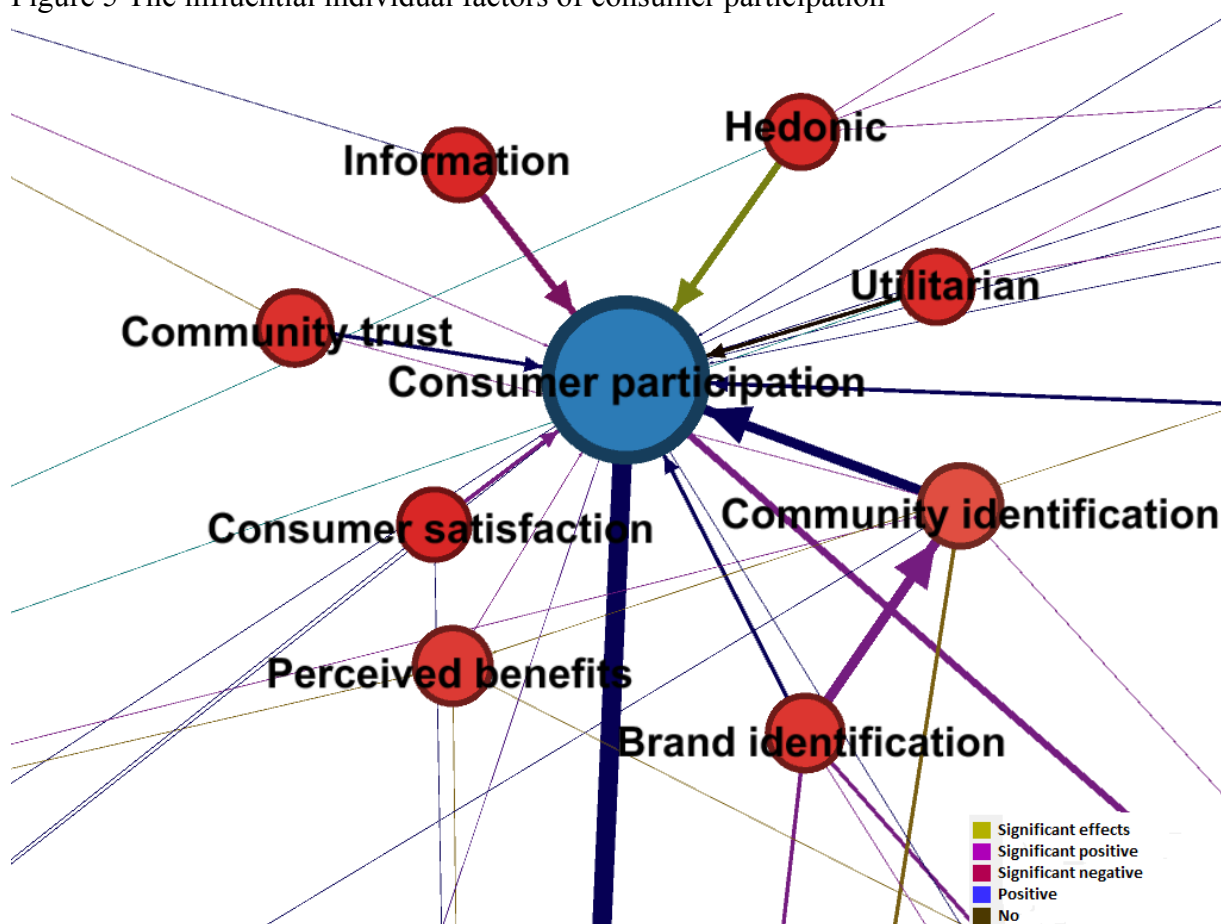
(3) Impacts of online brand communities

The most important variable in OBCs is tested by degree in network analysis (Figure 6). Explained by Knoke and Yang (2008), degree centrality indicates the extent that a node is connected with the other nodes in a network under the non-directed binary graph. The average degree is 1.491. Consumer participation has the highest degree with degree of 65 in this network, which shows that consumer participation has the most connections of nodes. The degrees from the second highest to eighth one are brand loyalty (11), community commitment (9), consumer interactions (8), consumer betweenness centrality (8)), brand attachment (8), consciousness of kind(8), emotional attachment (8). With a total number of nodes 252, approximately 82% of the nodes have relationships with consumer participation in OBCs.

As can be analyzed from Figure 6, there is a strong significant positive relationship between consumer participation and brand loyalty. Brand loyalty refers to that consumers are happy and have long-term relationships with firms (Zheng et al., 2015). More consumers participate into OBCs increases the degree of brand loyalty. It also has a significant positive impact on community commitment. Community commitment could be enhanced by increasing the active participants with similar values and norms.

Figure 6 Impacts of consumer participation in OBCs network
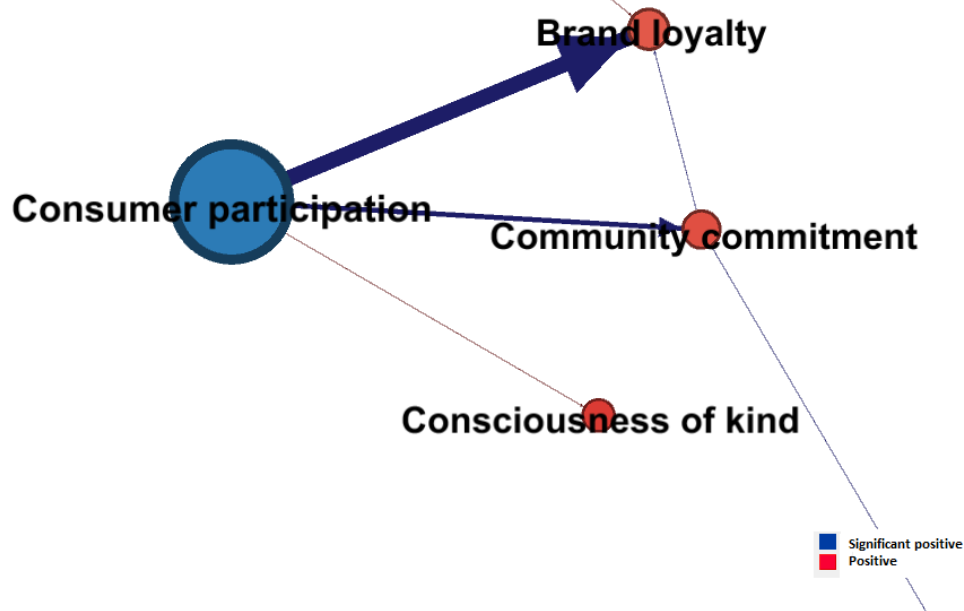
Note: The thicknesses of the edges (green) indicate the degree of relationship between two nodes . The unit of measurement is the relationship between consumer participation with the other variables.

5. Discussion and conclusion
5.1 Key findings

Sub-question 1: What are the characteristics of online brand communities?

The most representative characteristics of OBCs are consciousness of kind, moral responsibility and shared rituals and traditions. Highly developed OBCs have those characteristics in common. Consciousness of kind is "the intrinsic connection that members feel toward one another and the collective sense of difference from others not in the brand community" (Muniz and O'Guinn, 2001, p. 413). Moral responsibility is conceptualized as "a felt sense of duty or obligation to the brand community as a whole, and to its individual members", which is offered by two ways (Muniz and O'Guinn, 2001). Rituals and traditions is often centrally located on shared consumptions experiences the brand (Muniz and O'Guinn, 2001).

Sub-question 2: What are the current development tactics of online brand communities?

There are three approaches that managers should take into consideration during making the company strategy; namely, OBCs atmosphere, OBCs size, tenure and connection to social networking site and OBCs types. Managers should build a small sized, low- tenure and high connection to the social networking sites community in a creative OBCs atmosphere to stimulate customers creating more innovative ideas. Additionally, opening OBCs with appropriate types of innovation is increasingly important. Open OBC is more successful for radically innovative products than Discerning OBC or Restricted OBC. Discerning OBC suits to incrementally innovative products because of its moderate community access, moderate activity control and high host integration (Gruner et al., 2014).

Sub-question 3: What individual factors which influence the online brand communities?

The most important factor to affect OBCs is consumer participation. Efficient OBCs have high degrees of consumer participation. Consumer participation in OBCs is the topic that most articles from 2010 to 2015 are investigated. Consumers' hedonic, utilitarian needs, community trust, community identification, perceived benefits, and information sharing have significant effects on consumer participation.

Sub-question 4: What are the impacts of online brand communities?

The most influential impact of OBCs to create high-performance company strategy is brand loyalty. The impacts of online brand communities from high to low relationship in OBCs are brand loyalty, community commitment, purchase frequency, customer visit frequency, brand recognition and brand image. However, most OBCs impacts are determined by the degrees of customer participation.

The Central research question： What are current insights on the development of online brand communities on company strategy?

In order to guide the company strategy, on the one hand, firms need to concentrate the motives of consumer participation such as consumers' hedonic, utilitarian needs, and attempt to increase consumers' information sharing, perceived benefits, community trust and community identification to reach the high degrees of brand loyalty. On the other hand, managers should build a small sized and tenure and high connections with social networking sites in an innovative atmosphere for innovation and to match the suitable OBCs types with new products success.

5.2 Limitations

(1) Most journals without high impact factors
This research is a quantitative meta-study. The selected articles on Scopus and Web of Science were from journals, which mostly do not have high impact factors. There are mainly two reasons. Firstly, 2 selected articles are from Journal of Brand Management, which has been created in 2010, so it does not have a high impact factor yet. Secondly, as the topic OBC is new, most people and researchers in some journals have no focuses on that topic yet. It may become a sign of innovative research.

(2) Two search engines

In this paper, all articles are selected from two search engines; Web of Science and Scopus. It might have some missing papers which are not included in these two search engines.

(3) Technological constraints

Collected data which has been used in Gephi software are empirical research. Due to the technological constraints, articles with conceptual research are not applied in this software. In addition, only three variables can be inserted into Gephi software at the same time. For example, customer participation has a significant positive relationship with brand loyalty. To transfer this statement into Gephi software, the three variables would be "consumer participation", "brand loyalty" and "significant positive relationship". If one mediating variable is added in this relationship, Gephi software is not a practical option. The solution is to add one Gephi file stating "consumer participation", "brand loyalty" and the mediating variable.

5.3 Future research

In the network of OBCs, the variables are not only from empirical researches but also from conceptual research. Regarding of empirically tested variables with (no) significant positive/negative/effects, researchers have used sufficient evidences to prove their significant relationships and are not necessary to re-do the research. However, variables in the network from the conceptual research strongly need to be empirically tested and proven. Further research could usefully explore those variables, whose relationships are named as "(no) positive/negative/effects". There is also a lack of interrelated relationship of variables. For example, consumers' perceived benefits and satisfactions have significant positive effects on consumer participation. However, there is no relation between consumers' perceived benefits and consumer satisfaction in the network of individual factors-impacts in Figure 6, which could be the research topics for researchers. Furthermore, because of the time constraints, only the biggest cluster consumer participation is analyzed. In the future, the other clusters brand trust, brand loyalty and brand attachment could be looked into.

With the emergence of high-tech products, future research could also be to investigate the development trend of OBCs. Thus, conduct the network analysis from 2007 the year that the concept of OBC was introduced by Fuller, Jawecki and Muhlbacher to 2015 in order to compare OBCs network in 2007-2011 and 2011-2015. Therefore, differences of networks by the parameters degree and modularity can be recognized and development trends will be concluded.

6. Acknowledgement

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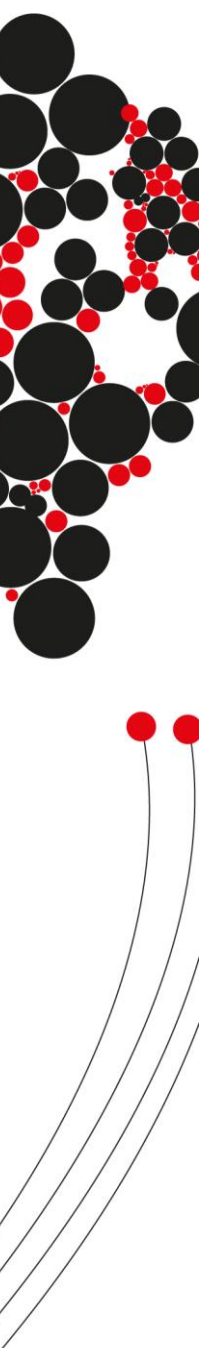
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Appendix A. Research proposal

Course：Master Class BA (201400018)
Institute: University of Twente

Research Proposal

The Impact of Online Brand Communities

Track:	Innovation & Entrepreneurship/ Marketing & Strategy
The 1st supervisor:	Efthymios Constantinides
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Date:	31-03-2015
Word count:	3,196

Table of Contents

Abbreviation

OBC	Online brand community
OBCs	Online brand communities

Figures

1. Introduction

"Brand community is a specialized, non-geographically bound community, based on a structured set of social relationships among admirers of a brand." It contains not only a shared consciousness, rituals and traditions and a sense of moral responsibility for all communities but also some specialities. Brand community is specially associated with the branded goods and service and occupies a crucial position in a brand's ultimate legacy (Muniz & Guinn, 2001). It has the advantages to be consumer agency, easily sharing information resources, adding social benefits to members. With the added value of web 2.0 technologies, online brand communities (OBCs) have created, which benefits the companies with increased knowledge of customers' needs, preferences and desires(Brogi, 2014). Since 2001, the idea of brand community has been introduced. Over the last ten years, more than a hundred articles related to OBCs have been published searched on the Web of Science. Many researches have been done to analyse the phases of OBCs, the ways of building OBCs, the influential factors of OBCs and their effects respectively. However, the topic OBCs lacks of a systematic framework. Therefore, this research is conducted to gain a more objective and systematic form of literature review by using a new method network toward literature review (Van de Wijngaert & Bouwman, 2012), which is prepared for later research.

With digitalization trend, the topic OBCs becomes important in the field of marketing. Therefore, the paper contributed to the academic digital marketing field. It also has the practical contributions. In business sectors, OBCs seem to be a rich perspective to improve company performance since the web 2.0 technology drives companies to change constantly and replace outdated items.

This research proposal is structured in the following way. Firstly, the paper presents the objectives and research questions of the research. Secondly, past theory and concepts related to brand communities are reviewed. Thirdly, the methods of literature review, coding and network analysis are described. Fourthly, the paper formulates the planning and provisional timetables.

2. Objective of the assignment

The research goal/objective is to build a framework of OBCs for fellow researchers by concluding the past literature and understanding the relationships. The concept brand community is significantly important for business activities as well as academic field especially when it has the advantages of representing a form of consumer agency, an important information resource for consumers and providing wider social benefits to the community members (Muniz & Guinn, 2001). Many researchers have investigated some aspects of OBCs. With a lack of a systematic framework of OBCs, it takes a large amount of time to find the definition, characteristics, drivers and impacts of brand communities respectively.

3. Research question

Central research question:
What are current insights in the impacts of online brand communities?

Sub-questions:

1) What are the current characteristics of online brand communities?
2) How can the current online brand communities be developed?
3) What are the current contextual factors which will influence the brand communities?
4) What are the current impacts of brand communities on brand equity and customer behaviour?

4. Theory/concepts

In this part, the key theoretical knowledge is explained based on the above sub questions.
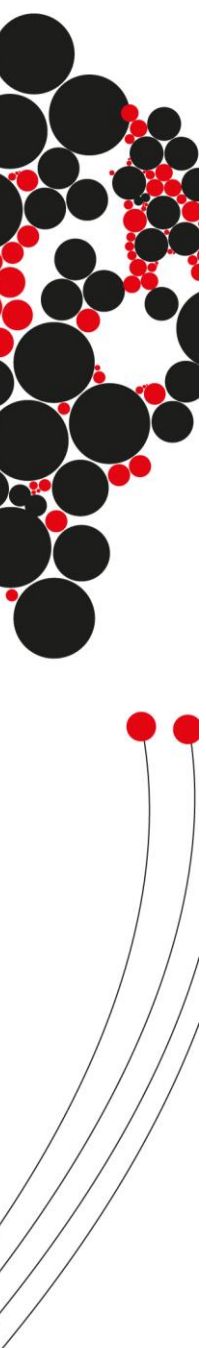
1) Definition:
Muniz and Guinn (2001) formally introduced the concept of brand community; "Brand community is a specialised, non-geographically bound community, based on a structured set of social relationships among admirers of a brand." In the other words, it also means that groups of admirers jointly attend group activities in order to reach the collective goals and/or share sentiments (Stokburger-Sauer, 2010). Although the traditional literature concentrates on the company-to-consumers paradigm, a new paradigm illustrates the consumers-to-consumers communication (McAlexander, Schouten & Koenig, 2002). Since the web 2.0 is spreading all over the world, people have more possibilities to use electronic tools and join e-communities easily. OBC is an important concept that customers begin sharing expertise and exchange important information in the business community (Lee et al., 2014).

2) Characteristics：
McAlexander, Schouten and Koenig (2002) provide the characteristics of a brand community via a four-relationship structure; the relationships between a customer and the products, the brands, the companies and other customers/owners. Brand communities also have three common traditional principles of community; shared consciousness, rituals and traditions, and a sense of moral responsibility. Muniz and Guinn (2001) explained the consciousness of kind as the core perspective of a brand community, which indicates "intrinsic connection that members feel toward one another, and the collective sense of difference from others not in the community". Additionally, rituals and traditions express that meanings, history and culture could be preserved in the communities. A sense of moral responsibility means that community members feel responsible to the community and individual members (Muniz and Guinn, 2001). McAlexander, Schouten and Koeig (2002) continued giving three context-dependent markers to analyse the brand communities deeply. One is the geographic concentration meaning the geographical distribution of the community members and social context classifying brand communities based on members' knowledge. The other is temporality, to judge the stableness of brand communities, either enduring or temporary and periodic.

Four types of relationships between individual identity and community membership have been revealed by Schau and Muniz (2002): subsumed identity, super member, community membership as identity component and multiple memberships. After McAlexander provided the customer-centric model, brand communities members are categorized into four parts; enthusiasts, users, behind-the-scenes and not-me by Schouten, and Koenig (2002) and Ouwersloot and Odekerken-Schroder (2008).

The recent study of Brogi (2014) indicates that the characteristics of OBCs include four main factors: the level of participation, the percentage of quality of relationship, the degree of identification and the level of quality of communication. The level of participation indicates the degree of interactions between members, which positively connected with the innovation and value creation procedures. The percentage of quality of relationship is evaluated by customers' satisfaction in the perspectives of sharing and obtaining benefits. Additionally, the degree of identifications illustrates that members have its own recognitions to be involved in the community, which differs with the non-members. The above three elements have positive influences on consumer loyalty and community promotion. The last point communication quality is judged by timeliness, relevance, frequency and duration, which is positively influenced by strong abilities members and affects purchase decisions.

3) The ways of developing brand communities:

To manage the relationships between members in community and brand in brand communities effectively, firms should create a cohesive brand community, meaning that all members could share the brand experiences and value as well as build the relationships in the communities. Brand communities can be developed by the companies through providing resources, such as funds, staff and place, transferring care and rewards to the community and sharing consumers' consumption experiences. Based on the style, personality, feeling and values of the brand, companies could also create, sponsor and join some related activities for a brand community (Zhou et al., 2012).

4) Contextual factors to affect the brand communities & impacts:
The following is an important model that explains the drivers and effects of OBCs, which becomes a guideline to conduct my research.

The drivers of OBC are recently discussed and investigated. In 2004, Dholakia et al., identified five value perception; purposive, self-discovery, maintaining interpersonal interconnectivity, social enhancement and entertainment value in order to enhance customers to participate into the OBCs via social media. It follows with four drivers containing functional, psychological, social and hedonic drivers by Wang and Fesenmaier (2004). Sicilia and Palazon (2008) established that the reason why members have continually contribution to the community is because of the value of function, society and entertainment. Then, three parts of drivers of member's participation including self-enhancement, rewards and problem-solving support are introduced by Yen et al., (2011). According to the above analysis, the drivers recently are grouped into learning, social, self-esteem and hedonic drivers associated with consumer-brand relationship. The learning driver implies to benefit customers from giving a platform to community members to obtain the knowledge of brand and products and communicate with members in case of any problems occur. Social driver enhances the participation of customers via products' knowledge while members could gain the reputation, respect and status in the community through helping the other new members for self-esteem drivers. The hedonic driver means joining the OBCs would entertain the members in their spare time (Zhang et al., 2014). However, when the customers have expertise to manipulate the online sources, there is an increase of community participation. In terms of the relationship between consumer and community, the degree of OBCs participation has some impacts on value creation and consumer commitment. Simultaneously, the OBC activities are the indicators of the effects of consumer-based brand equity (CBBE) in OBCs. Therefore, brand

perception, brand loyalty and relationship satisfaction were investigated. It results in different brand equity and consumer behaviour by the above variables (Zhang et al., 2014).

Figure 5 Conceptual model of drivers and outcomes of OBC (Zhang et al., 2014)

OBC Drivers → OBC Activities ← OBC outcomes

Learning drivers	Consumer expertise	Value Creation		Brand perception
Social drivers				
Self-esteem drivers	Brand community participation		Consumer-based brand equity	Brand loyalty
Hedonic drivers		Consumer commitment		IMC and Relationship satisfaction
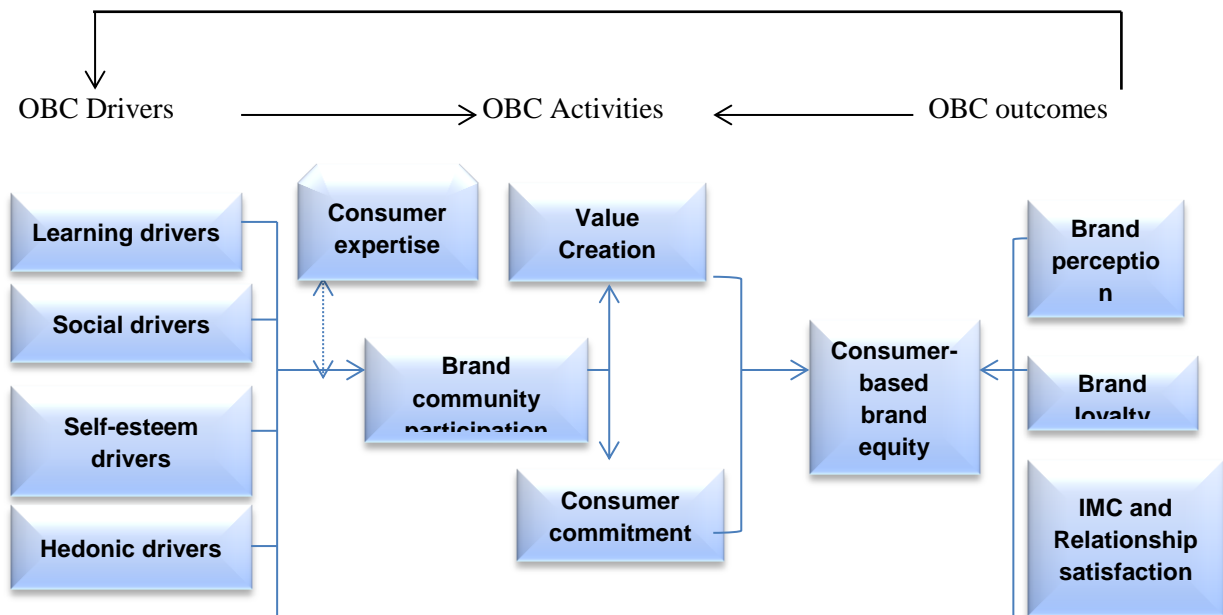
This research is mainly descriptive study. Description is the precise measurement and reporting of characteristics of some population or phenomenon under study (Babbie, 2007). Through the qualitative research literature review, the previous articles related to brand communities will be collected in order to describe detailed information of online brand community. Then, explain and conclude the relationships between the variables via network analysis.

Network analysis towards literature review
Network analysis towards literature review provides a deep understanding of a present research field. This method does not only benefit from meta-analysis (objective and systematic) but also from the network method, which is the visual-analytics. It also covers and indicates the knowledge gaps in the current literature in a specific domain (Van de wijngaert et al., 2012). In a network method, in-degree and out-degree have been used (Wasserman and Faust, 1994). In-degree means the number of incoming ties while out-degree reveals an explanatory concept. The white circle shows an independent variable; the dark square refers to a dependent concept and mid-grey diamond-shaped nodes are the mediating concepts explained by other constructs and concepts. Therefore, it could indicate an overview of the particular research area (Van de wijngaert et al., 2012). In this research, the definition and characteristics of OBCs is the independent variable while dependent variables are drivers, contextual factors and effects of OBCs.

Data collection:
Literature review:
In this master thesis, literature review is the main method to collect the existing data. In order to decrease the difficulties for showing all possible research results in a research domain, a more systematic way that combining literature research with meta-analysis is applied to analyse a single hypothesis from different studies (Van de wijngaert et al., 2012). Through reviewing the past literature, the information of what the characteristics

of OBCs are, how the OBCs can be developed, what the contextual factors are to influence the OBCs and what the profound impacts are could be gained.

The related literature used to answer the central research questions are collected on scientific search engines: Scopus, Google Scholar and the Web of Science by some key words "online brand community/communities" "virtual brand community". Applying three search engines together "helps reveal a more accurate and comprehensive picture of the scholarly impact of authors" (Meho et al., 2007). Additionally, key journals are selected in top 10 journals to ensure the reliability of the research. Top 10 marketing journals are
Journal of Marketing, Journal of Marketing Research, Marketing Science, Journal of Consumer Research, Quantitative Marketing and Economics, Journal of Public Administration Research and Theory, Journal of the Academy of Marketing Science, Journal of Supply Chain Management, International Journal of Research in Marketing and Academy of Management Perspectives (Journal rankings on marketing, 2013). It is found according to the impact factor of marketing journals shown on SCImago Journal & Country Rank, which is a portal developed from Scopus database and widely used as an indicator in scientific domains. Furthermore, the most articles selected are published in the recent five years (2010-2015). The literature will be reviewed by a logic from the definition of OBCs, phases/characteristics/categories of OBCs, the ways to develop OBCs, the drivers of creating OBCs and its impacts (Figure 2). The method of how to gain and evaluate the data will be well recorded to reach the high reliability of the research. When the other researchers have the same interests to conduct this research, they should obtain the same results. The reliability of the results for our research is derived from the respondents of the collected articles.

Figure 2 The logic of doing literature review
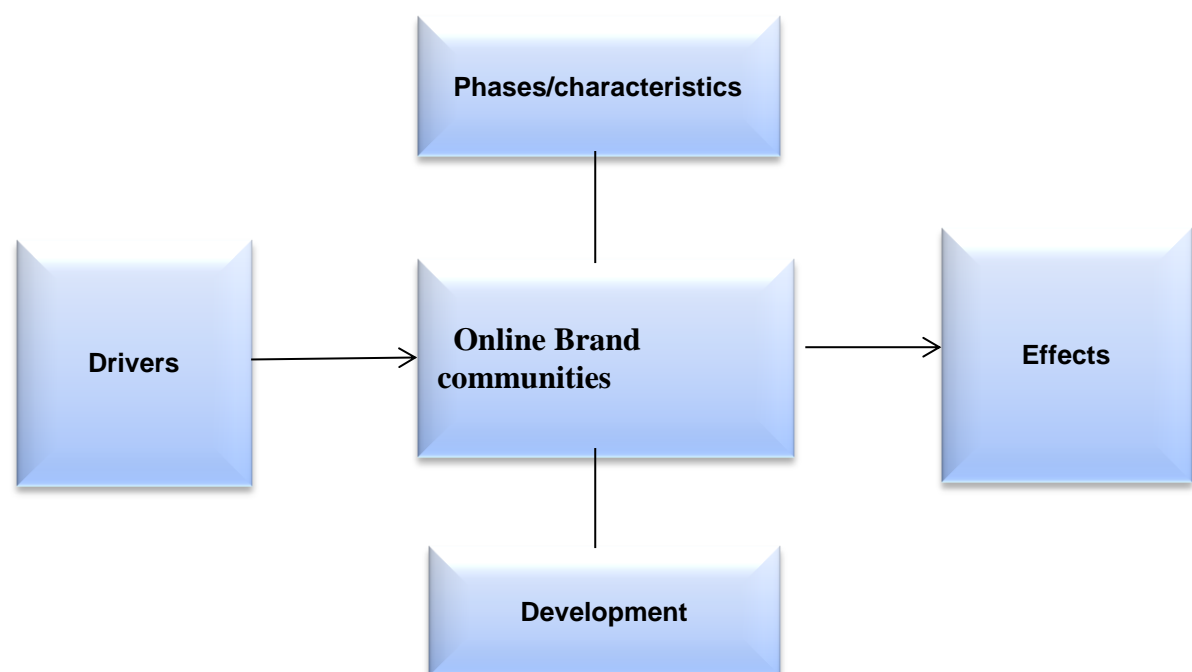
Coding:
While investigating the appropriate articles, coding is a technique to help making the work effort and choices explicitly. Coding is to classify or categorise individual pieces of data and coupled with some kind of retrieval system for qualitative research (Babbie, 2007). As this research is mainly theoretical, coding the data via a spreadsheet speeds up the coding process. Each publication will be coded via bibliographic information (short title, long title, year, authors and name journal), information about the research project (sample type and size, research design and theoretical framework), information about the hypothesis, characteristics of the relationship, results and remarks (Van de Wijngaert et al., 2012). To decrease difficulties of analysing, unifying and aggregating different concepts into a node is necessary.

Data analysis:
Gephi analysis:
In order to analyse the collected data and create a framework or model of OBCs, a new method network analysis with advantages of simple use, allowance in comparisons of difference domains and obtaining new types of insights will be used. It also poses opportunities to characterize changes over time via examining data annually and examine whether the hypotheses are empirically validated (Van de Wijngaert et al., 2012). Practically, to transfer the collected data into network data, the Gephi software is applied to combine independent variables with dependent variables. "Gephi is an open source network exploration and manipulation software" (Bastian et al., 2009), which calculates network metrics and visualizes the concrete information of OBCs.

6. Planning

Phase:	Duration:	Deadline:
Research proposal	1 month	31 March 2015
Sub question 1: What are the current characteristics of online brand communities?		
Sub question 2: How can the current online brand communities be developed?	2 months	31 May 2015
Sub question 3: What are the current contextual factors, which will influence the brand communities?		
Sub question 4: What are the current impacts of brand communities on brand equity and customer behaviour?		
Concept master thesis	1 month	30 June 2015
Final version master thesis	1 week	1 July 2015
Presentation & defense		15 July 2015

7. Outline

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Yen, H. R., Hsu, S. H. Y., & Huang, C. Y. (2011). Good soldiers on the web: Under-standing the drivers of participation in online communities of consumption. *International Journal of Electronic Commerce, 15*(4), 89–120. http://dx.doi.org/10.2753/JEC1086-4415150403

Zhang, J., Shabbir, R., Pitsaphol, C., & Hassan, W. (2014). Creating Brand Equity by Leveraging Value Creation and Consumer Commitment in Online Brand Communities: A Conceptual Framework. *International Journal of Business and Management*, *10*(1), p80.

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Appendix B. Processes of articles selection

Steps of doing a systematic literature review will be guided by an evidence-based approach to scoping reviews from Hidalgo Linda et al (2011) because this approach is repeatable and documented and could provide measurable, visible, objective and verifiable research quality as well as assure the proved objectivity of results. This approach includes four main steps; define and refine research search terms (step 1); identify databases and search engines (step 2); create and apply the inclusion and exclusion criteria filters (step 3) and verify the sub-selection is representative (step 4) (Hidalgo Linda et al., 2011).

1. Select the articles before analysis

      1.1 Define the search terms

According to the central research question "what are the current insights in the impacts of online brand communities?" and sub-questions "what are the current characteristics of online brand communities?", "How can the current online brand communities be developed?", "What are the current contextual factors which will influence the online brand communities?" and "What are the current impacts of online brand communities on brand equity and behaviour?", the key words are as follows. Online brand community only means the brand-sponsored online brand communities in this research (McKenzie et al., 2009). Then, the synonyms of key words were found from reviewing the first ten articles with high relevance of the key words on Scopus as well as checking on Thesaurus until the new terms peer out (Hidalgo Linda et al., 2011) in order to be certain that the whole map of key words is fully covered. As follows, the search strings are provided by combing all the key words and possible synonyms.

Table 12 Synonyms of keywords

Search keywords	Synonyms				
Online brand community	Virtual brand community				
Online brand communities	Virtual brand communities				
Characteristics	Phases	Features	Categories	Aspects	Attributes
Development	Drivers				
Impacts	Effects	influences			

Prior to make the search strings, the synonyms of search key words are tested by Mechanical Cinderella, known as normalized Google distance. The lower numbers in the result matrix shows the higher probabilities of keywords co-occurrence. By checking the link of www.mechanicalcinderella.com, the probabilities of co- occurency between key words and synonyms are below 0.5, which is the cut-off point in Mechanical Cinderella and indicates those key words and synonyms are correlated.

Three important search engines "Scopus" "Web of Science" and "Google Scholar" are applied because "it helps reveal a more accurate and comprehensive picture of the scholarly impact of authors" (Meho et al., 2007). However, Scopus has covered 20% more citations than the Web of Science while citation information on Google Scholar has accuracy problems (Falagas et al., 2008). Therefore, Scopus and the Web of Science are the main search engines in this research. While searching the exact phases by key words and search strings, braces are applied for Scopus (Finding phases on Scopus, 2014) and

quotation mark for Web of Science (Web of Science Search Rules, 2009). For example, "{online brand community} OR {virtual brand community}" were searched on Scopus while ""online brand community" OR "virtual brand community"" by the Web of Science. The articles of online brand community will be sorted by article title, abstract and key words (Scopus) and topic (Web of Science).

When searching articles via Scopus and Web of Science in the University of Twente, there are around 50% of the articles without access. With the limited access to the articles on Scopus and Web of Science, sending e-mails directly to the authors and finding articles via Google Scholar are used to gather the related information.

Table 13 Articles selection results by search strings

Search strings	Search engines	
	Scopus	Web of Science
online brand community OR online brand communities OR virtual brand community OR virtual brand communities	84	92
online brand community OR online brand communities OR virtual brand community OR virtual brand communities AND characteristic OR characteristics OR phase OR phases OR feature OR features OR category OR categories OR aspect OR aspects OR attribute OR attributes	19	21
online brand community OR online brand communities OR virtual brand community OR virtual brand communities AND drivers OR driver OR develop OR development OR developed	26	30
online brand community OR online brand communities OR virtual brand community OR virtual brand communities AND individual factor OR individual factors OR individual perspective OR individual perspectives	1	1
online brand community OR online brand communities OR virtual brand community OR virtual brand communities AND Impact OR impacts OR effect OR effects OR influence OR influences	51	60

1.2 Decide on and apply filters for inclusion and exclusion

Criterion 1: Language- English
To filter the articles by the language English, it could get a more reliable result. The author is not professional in the other language, which would be possibly cause some misunderstandings and easily make some errors. Therefore, the collected articles are in English.

Table 14 Articles selection results by the inclusion criterion language-English

Search strings	Search engines	
	Scopus	Web of Science

online brand community OR online brand communities OR virtual brand community OR virtual brand communities	82	57
online brand community OR online brand communities OR virtual brand community OR virtual brand communities AND characteristic OR characteristics OR phase OR phases OR feature OR features OR category OR categories OR aspect OR aspects OR attribute OR attributes	19	9
online brand community OR online brand communities OR virtual brand community OR virtual brand communities AND drivers OR driver OR develop OR development OR developed	25	23
online brand community OR online brand communities OR virtual brand community OR virtual brand communities AND individual factor OR individual factors OR individual perspective OR individual perspectives	1	1
online brand community OR online brand communities OR virtual brand community OR virtual brand communities AND Impact OR impacts OR effect OR effects OR influence OR influences	49	36

Criterion 2: Year 2010- 2015

A highly systematized set of filters was proposed by Hidalgo Landa et al. (2011):
- Global filters which are metadata-based, i.e. which exclude or include based on author, years of publication etc.
- Semantic – i.e. exclude those articles which use the same terms but with a different meaning.
- Evidence-grade – based on the quality of the article.

As the main research question is "what are the current insights in the impacts of online brand communities", the literature has to be updated. By using the global filters, the articles are limited into five years from 2010 to 2015. The semantic filters are not necessary in this analysis because search terms are the full names instead of abbreviations (one abbreviation has different meanings). Evidence grade filters are used to exclude the badly conducted science, which will be included in the further research. As the numbers of articles are always increasing on Scopus and the Web of Science, this articles selection is done at 30 April 2015.

Table 15 Articles selection results by the inclusion criterion year 2010-2015

Search strings	Search engines	
	Scopus	Web of Science
online brand community OR online brand communities OR virtual brand community OR virtual brand communities	69	45
online brand community OR online brand communities OR virtual brand community OR virtual brand communities AND characteristic OR characteristics OR phase OR phases OR feature OR features OR category OR categories OR aspect OR aspects OR attribute OR attributes	14	7
online brand community OR online brand communities OR virtual brand community OR virtual brand communities AND drivers OR driver OR develop OR development OR developed	19	20
online brand community OR online brand communities OR virtual brand community OR virtual brand communities AND individual factor OR individual factors OR individual perspective OR individual perspectives	1	1
online brand community OR online brand communities OR virtual brand community OR virtual brand communities AND Impact OR impacts OR effect OR effects OR influence OR	41	29

influences		

Criterion 3 the selection of Journals
This research topic is new. Most selected articles are from some journals which do not have high impact factors, so I decided not to choose impact factors as a criterion to select articles. In this part, the collected articles have no changes.

Criterion 4: Titles & Abstracts
To collect all the articles from Scopus and the Web of Science, read the titles and abstracts, sort out the related articles and give a final amount of articles. After searching the articles by key words, it could have biases. Thus, this stage is to understand the titles and abstracts of selected articles and ensure the reliability.

The method is firstly to create an account on Scopus and Web of Science and save the suitable articles. There are five types of scientific abstracts, namely, descriptive, informative, structured, semi-structured and non-structured abstracts. Although the contents of different types of abstracts differ, it has some parts in common, which are background, methodology, findings and impacts of the research (Nagda, 2013).
The analysis will be done according to the above criteria.

Step 1: Titles& Abstracts
In this step, I looked at the relevance of articles by scanning titles & abstracts to check whether it contains the word "online brand community" and "virtual brand communities" or synonyms of it. Very relevant articles are chosen. When selecting articles, one point which has been noticed is the social networking site is not online brand community in my research.

Table 16 Article selection results by the criterion abstracts and titles

	Scopus	Web of Science
Very relevant	55	35

Step 2: Methodology & Findings
In the research of online brand communities, there are only a few empirical researches. Therefore, methodology & findings unnecessarily be treated as a criterion to select the articles.

1.3 Find the total amount of articles
Collect articles from Scopus and the Web of Science, find overlap articles by matching the articles on Scopus and the Web of Science with the same titles and give a total amount of articles Write all the titles down in an excel sheet from Scopus and Web of Science, use the sorting technique descending to delete the repeatable articles and conclude the total number of articles. The list of selected articles are on Table 18.

Table 17 Total number of selected articles

	Total amount of articles
Online brand community OR online brand communities OR virtual brand community OR virtual brand communities	61
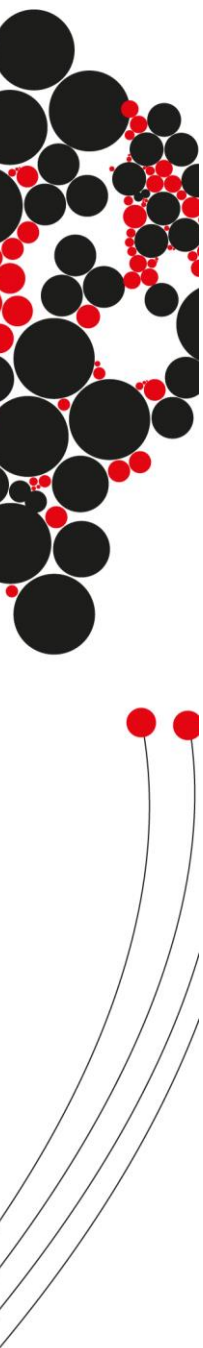
Table 18 The list of 61 selected articles

Reference No.	Citations	References
1	(Zheng et al., 2015)	Zheng, X., Cheung, C. M., Lee, M. K., & Liang, L. (2015). Building brand loyalty through user engagement in online brand communities in social networking sites. *Information Technology & People*, *28*(1), 90-106.
2	(Dessart et al., 2015)	Dessart, L., Veloutsou, C., & Morgan-Thomas, A. (2015). Consumer engagement in online brand communities: A social media perspective. *Journal of Product & Brand Management*, *24*(1), 28-42.
3	(Baldus et al., 2014)	Baldus, B. J., Voorhees, C., & Calantone, R. (2015). Online brand community engagement: Scale development and validation. *Journal of Business Research*,*68*(5), 978-985.
4	(Wu et al., 2014)	Wu, J., Huang, L., Zhao, L., & Hua, Z. (2014). Effect of Online Brand Community on Customer Behavior Exploration: Reconciling Mixed Findings via Regulatory Focus Theory.
5	(Gruner et al., 2014)	Gruner, R. L., Homburg, C., & Lukas, B. A. (2014). Firm-hosted online brand communities and new product success. *Journal of the Academy of Marketing Science*, *42*(1), 29-48.
6	(Lee et al., 2014)	Lee, H., Han, J., & Suh, Y. (2014). Gift or threat? An examination of voice of the customer: The case of MyStarbucksIdea. com. *Electronic Commerce Research and Applications*, *13*(3), 205-219.
7	(Jung et al., 2014)	Jung, N. Y., Kim, S., & Kim, S. (2014). Influence of consumer attitude toward online brand community on revisit intention and brand trust. *Journal of retailing and consumer services*, *21*(4), 581-589.
8	(Yan et al., 2014)	Yan, B. S., Jing, F. J., Yang, Y., & Wang, X. D. (2014). Network centrality in a virtual brand community: Exploring an antecedent and some consequences.*Social Behavior and Personality: an international journal*, *42*(4), 571-581.
9	(Lee et al., 2014)	Lee, H., Jeong, S., & Suh, Y. (2014, January). The Influence of Negative Emotions in an Online Brand Community on Customer Innovation Activities. In*System Sciences (HICSS), 2014 47th Hawaii International Conference on* (pp. 1854-1863). IEEE.
10	(Palazon et al., 2014)	Palazon, M., Sicilia, M., & Delgado, E. (2014). The Role of Social Networking Sites in Generating "Brand Love". *Universia Business Review*.
11	(Lee and Kang, 2013)	Lee, H. J., & Kang, M. S. (2013). The Effect of Brand Personality on Brand Relationship, Attitude and Purchase Intention with a Focus on Brand Community. *Academy of Marketing Studies Journal*, *17*(2), 85.
12	(Shu and Zhang, 2013)	Shu, L., & Zhang, H. (2013). Relationship between Characteristics of Virtual Brand Community and Brand Attachment for Nokia BBS Users. *Journal of Computers*, *8*(12), 3223-3229.
13	(Wang, 2013)	Wang, X. C. (2013, January). Innovative Roles of
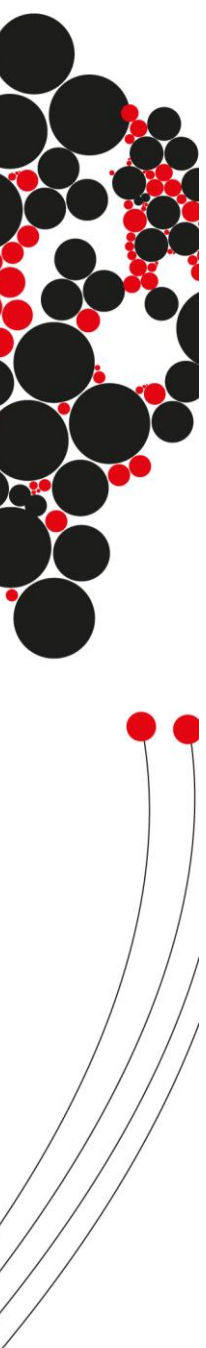
		Brand Community Members: A Typology Based on Cluster Analysis. In *The 19th International Conference on Industrial Engineering and Engineering Management* (pp. 1597-1606). Springer Berlin Heidelberg.
14	(Zhou et al., 2013)	Zhou, Z., Wu, J. P., Zhang, Q., & Xu, S. (2013). Transforming visitors into members in online brand communities: Evidence from China. *Journal of Business Research*, *66*(12), 2438-2443.
15	(Brogi et al., 2013)	Brogi, S., Calabrese, A., Campisi, D., Capece, G., Costa, R., & Di Pillo, F. (2013). Effects of online brand communities on brand equity in luxury fashion industry. *International Journal of Engineering Business Management*, *5*(1), 1-9.
16	(Kuo and Feng, 2013)	Kuo, Y. F., & Feng, L. H. (2013). Relationships among community interaction characteristics, perceived benefits, community commitment, and oppositional brand loyalty in online brand communities. *International Journal of Information Management*, *33*(6), 948-962.
17	(Cheng et al., 2013)	Cheng, C. C., Tsai, H. T., & Krumwiede, D. (2013). How to enhance new product creativity in the online brand community?. *Innovation*, *15*(1), 83-96.
18	(Chang et al., 2013)	Chang, A., Hsieh, S. H., & Tseng, T. H. (2013). Online brand community response to negative brand events: the role of group eWOM. *Internet Research*,*23*(4), 486-506.
19	(Li, 2013)	Li, D. H. (2013, July). Research on motivations of consumer engagement in online brand community. In *Applied Mechanics and Materials* (Vol. 321, pp. 3017-3021).
20	(Wirtz et al., 2013)	Wirtz, J., den Ambtman, A., Bloemer, J., Horváth, C., Ramaseshan, B., van de Klundert, J., ... & Kandampully, J. (2013). Managing brands and customer engagement in online brand communities. *Journal of Service Management*,*24*(3), 223-244.
21	(Divakaran, 2012)	Divakaran, P. K. P. (2013). Pre-release member participation as potential predictors of post-release community members' adoption behaviour: evidence from the motion picture industry. *Behaviour & Information Technology*, *32*(6), 545-559.
22	(Ind et al., 2013)	Ind, N., Iglesias, O., & Schultz, M. (2013). Building Brands Together: EMERGENCE AND OUTCOMES OF CO-CREATION. *California Management Review*, *55*(3).
23	(Wang et al., 2013)	Wang, Y., Chan, S. F., & Yang, Z. (2013). CUSTOMERS'PERCEIVED BENEFITS OF INTERACTING IN A VIRTUAL BRAND COMMUNITY IN CHINA. *Journal of Electronic Commerce Research*, *14*(1), 46-69.
24	(Brodie et al., 2013)	Brodie, R. J., Ilic, A., Juric, B., & Hollebeek, L. (2013). Consumer engagement in a virtual brand community: An exploratory analysis. *Journal of Business Research*, *66*(1), 105-114.
25	(Li et al., 2013)	Li, S., Clark, L., & Wheeler, C. (2013, September). Unlocking the marketing potential of social capital: A

		study to identify the dimensions of social capital considered represented within online brand communities. In *e-Business Engineering (ICEBE), 2013 IEEE 10th International Conference on* (pp. 138-141). IEEE.
26	(Wang et al., 2012)	Wang, Y., Shi, J., Ma, S., Shi, G., & Yan, L. (2012). Customer Interactions in Virtual Brand Communities: Evidence from China. *Journal of Global Information Technology Management*, *15*(2), 46-69.
27	(Noble et al., 2012)	Noble, C. H., Noble, S. M., & Adjei, M. T. (2012). Let them talk! Managing primary and extended online brand communities for success. *Business horizons*, *55*(5), 475-483.
28	(Laroche et al., 2012)	Laroche, M., Habibi, M. R., Richard, M. O., & Sankaranarayanan, R. (2012). The effects of social media based brand communities on brand community markers, value creation practices, brand trust and brand loyalty. *Computers in Human Behavior*, *28*(5), 1755-1767.
29	(Hede and Kellett, 2012)	Hede, A. M., & Kellett, P. (2012). Building online brand communities Exploring the benefits, challenges and risks in the Australian event sector. *Journal of vacation marketing*, *18*(3), 239-250.
30	(Zhou et al., 2012)	Zhou, Z., Zhang, Q., Su, C., & Zhou, N. (2012). How do brand communities generate brand relationships? Intermediate mechanisms. *Journal of Business Research*, *65*(7), 890-895.
31	(Adjei et al., 2012)	Adjei, M. T., Noble, C. H., & Noble, S. M. (2012). Enhancing relationships with customers through online brand communities. *MIT Sloan Management Review*,*53*(4), 22.
32	(Malaska and Nadeem, 2012)	Mäläskä, M., & Nadeem, W. (2012). Examining the Nature of an Online Brand Community as a B2B Brand Communication Platform: A Netnographic Analysis of the CISCO LinkedIn Group. *25th Bled eConference eDependability: Reliable and Trustworthy eStructures, eProcesses, eOperations and eServices for the Future. Bled, Slovenia*, 30-42.
33	(Pahnila et al., 2012)	Pahnila, S., Väyrynen, K., & Pokka, T. (2012). Open Innovation In Online Brand Communities. In *PACIS* (p. 176).
34	(Lee et al., 2011)	Lee, H. J., Lee, D. H., Taylor, C. R., & Lee, J. H. (2011). Do online brand communities help build and maintain relationships with consumers? A network theory approach. *Journal of Brand Management*, *19*(3), 213-227.
35	(Devasagayam and Van den Heuvel, 2008)	Devasagayam, Raj and Dana VanDenHeuvel (2008), "Building Brand Communities on the Internet: GeoFree BrandComm," *DIAS Technology Review: The International Journal for Business and IT, Vol. 4, Number 2, pp. 10-16.*
36	(Segrave et al., 2011)	Segrave, J., Carson, C., & Merhout, J. W. (2011). Online Social Networks: An Online Brand Community Framework. In *AMCIS*.
37	(Falcone, 2014)	Falcone, P. (2014). The Creation and Management of Online Brand Communities. *Cyber Behavior:*

		Concepts, Methodologies, Tools, and Applications: Concepts, Methodologies, Tools, and Applications, 131.
38	(Zhao and Wang, 2011)	Zhao, W., & Wang, D. (2011, August). An Empirical Study on the Consumer Motivations Participating in Virtual Brand Community. In *Management and Service Science (MASS), 2011 International Conference on* (pp. 1-4). IEEE.
39	(Wang et al., 2011)	Wang, B., Niu, H., Guo, X., & Li, H. (2011, August). How to Build up Company-Managed Online Brand Community to Implement SMEs Branding? Inspirations from Empirical Investigation. In *Management and Service Science (MASS), 2011 International Conference on* (pp. 1-3). IEEE.
40	(Lin et al., 2011)	Lin, B., Ming, S., & Bin, H. (2011, May). Virtual brand community participation and the impact on brand loyalty: A conceptual model. In *Business Management and Electronic Information (BMEI), 2011 International Conference on* (Vol. 1, pp. 489-492). IEEE.
41	(Wang et al., 2011)	Wang, Y. J., Butt, O. J., & Wei, J. (2011). My identity is my membership: A longitudinal explanation of online brand community members' behavioral characteristics. *Journal of Brand Management*, *19*(1), 45-56.
42	(Hur et al., 2011)	Hur, W. M., Ahn, K. H., & Kim, M. (2011). Building brand loyalty through managing brand community commitment. *Management Decision*, *49*(7), 1194-1213.
43	(Marchi et al., 2011)	Marchi, G., Giachetti, C., & de Gennaro, P. (2011). Extending lead-user theory to online brand communities: The case of the community Ducati. *Technovation*,*31*(8), 350-361.
44	(Lee et al., 2011)	Lee, J., Chang, I., & Su, Y. (2011, May). A study on the impact of online brand community interaction model on brand loyalty—Focusing on the online automobile brand community. In *E-Business and E-Government (ICEE), 2011 International Conference on* (pp. 1-4). IEEE.
45	(Yeh and Chio, 2011)	Yeh, Y. H., & Choi, S. M. (2011). MINI-lovers, maxi-mouths: An investigation of antecedents to eWOM intention among brand community members. *Journal of Marketing Communications*, *17*(3), 145-162.
46	(Li, 2011)	Li, W. (2011). How virtual brand community influences on consumer-based brand equity. In *2011 International Conference on E-Business and E-Government (ICEE)*.
47	(Lee et al., 2011)	Lee, D., Kim, H. S., & Kim, J. K. (2011). The impact of online brand community type on consumer's community engagement behaviors: Consumer-created vs. marketer-created online brand community in online social-networking web sites.*Cyberpsychology, Behavior, and Social Networking, 14*(1-2), 59-63.
48	(Li and Kim, 2010)	Li, M., & Kim, S. J. (2011). An empirical study of customer contribution in online brand communities for innovation. *2010 International conference on information systems.*
49	(Sung et al., 2010)	Sung, Y., Kim, Y., Kwon, O., & Moon, J. (2010). An

		explorative study of Korean consumer participation in virtual brand communities in social network sites. *Journal of Global Marketing*, *23*(5), 430-445.
50	(Wu and Fang, 2010)	Wu, S. C., & Fang, W. (2010). The effect of consumer-to-consumer interactions on idea generation in virtual brand community relationships. *Technovation*,*30*(11), 570-581.
51	(Madupu and Cooley, 2010)	Madupu, V., & Cooley, D. O. (2010). Cross-cultural differences in online brand communities: An exploratory study of Indian and American online brand communities. *Journal of International Consumer Marketing*, *22*(4), 363-375.
52	(Madupu and Cooley, 2010)	Madupu, V., & Cooley, D. O. (2010). Antecedents and consequences of online brand community participation: a conceptual framework. *Journal of Internet Commerce*, *9*(2), 127-147.
53	(Wu and Sukoco, 2010)	Wu, W. Y., & Sukoco, B. M. (2010). WHY SHOULD I SHARE? EXAMINING CONSUMERS'MOTIVES AND TRUST ON KNOWLEDGE SHARING. *Journal of Computer Information Systems*, *50*(4), 11.
54	(Scarpi, 2010)	Scarpi, D. (2010). Does size matter? An examination of small and large web-based brand communities. *Journal of Interactive Marketing*, *24*(1), 14-21.
55	(Adjei et al., 2010)	Adjei, M. T., Noble, S. M., & Noble, C. H. (2010). The influence of C2C communications in online brand communities on customer purchase behavior.*Journal of the Academy of Marketing Science*, *38*(5), 634-653.
56	(Brogi, 2014)	Brogi, S. (2014). Online brand communities: a literature review. *Procedia-Social and Behavioral Sciences*, *109*, 385-389.
57	(Chang et al., 2013)	Chang, A., Hsieh, S. H., & Lin, F. (2013). Personality traits that lead members of online brand communities to participate in information sending and receiving.*International Journal of Electronic Commerce*, *17*(3), 37-62.
58	(Dvakaran, 2013)	Dvakaran, P. K. P. (2013). Does consumer or community generated truly reflect market needs at all times? A different perspective on idea selection by classifying the source of new ideas and by using social identity theory. *The 7th International Days of Statistics and Economics*
59	(Wang, 2012)	Wang, X. H. (2012). Innovative Activities within Online Brand Community: A Grounded Analysis Based on Netnography. *INNOVATION AND MANAGEMENT*.
60	(Royo-Vela and Casamassima, 2011)	Royo-Vela, M., & Casamassima, P. (2011). The influence of belonging to virtual brand communities on consumers' affective commitment, satisfaction and word-of-mouth advertising: The ZARA case. *Online Information Review*,*35*(4), 517-542.
61	(김용호 et al., 2011)	김용호, 최성철; 김문태. (2011). Understanding the Interacting Roles of Online and Offline Brand Communities in Building Brand Loyalty. *Journal of Marketing Management Research*, *16*(4), 99-124.

1.4 Collect all articles

When collecting all articles, two articles of 김용호 et al., (2011) (reference No. 37) and Falcone (2014) (reference No. 61) are missing;

Due to reasons that the researchers cannot be found on the researcher gate, I assume those two articles are not that reliable. Therefore, I decided to exclude it. 59 articles were ready to be analyzed

1.5 Ensure that the resulting articles are representative, by repeating the filtering process

When repeating the filtering process, the same result will be obtained.

2. Select articles during analysis

In the codebook, there are characteristics of online brand communities, development of online brand communities in the organizational level, individual factors which will influence the online brand communities and impacts of online brand communities in the excel sheet 1 (background information) and excel sheet 2 (scientific outputs). However, not all selected articles are related to the sub-questions with empirical researches. I have checked whether the online brand communities are firm-hosted or no, its relations with my sub-questions and whether it has independent and dependent variables. If not, the articles will not be treated as valid and reliable ones. Therefore, 8 articles are excluded.

Table 19 The results of articles selection during analysis

Reference No.	Citations	Reason for articles exclusion	Details of the exclusion reasons
10	(Palazon et al., 2014)	Language-English	Only English articles are collected in the previous phase. However, there is still 1 Spanish article, which is sorted simultaneously.
35	(Devasagayam and van den Heuvel, 2008)	Year	This article was published in 2008. Our year range is from 2010 to 2015.
1	(Zheng et al., 2015)	Research questions	Those articles do not match the research questions.
4	(Wu et al., 2014)		
25	(Li et al., 2013)		
32	(Malaska and Nadeem, 2012)		
41	(Wang et al., 2011)		
58	(Dvakaran, 2013)		

The number of articles used to analyse are 51.

References:

Falagas, M. E., Pitsouni, E. I., Malietzis, G. A., & Pappas, G. (2008). Comparison of PubMed, Scopus, web of science, and Google scholar: strengths and weaknesses. *The FASEB journal*, *22*(2), 338-342.

Finding phrases on Scopus. (2014). Retrieved April 15, 2015, from http://help.scopus.com/Content/h_phrases.htm

Google Scholar User Guide. (2012). Retrieved from CIAP website: http://www.ciap.health.nsw.gov.au/docs/userguides/Google%20Scholar%20User%20Guide.pdf

Landa, A. H., Szabo, I., Le Brun, L., Owen, I., Fletcher, G., & Hill, M. (2011). An evidence-based approach to scoping reviews. *The Electronic Journal of Information Systems Evaluation*, *10*(4), 173-175.

McKenzie, S. J. (2009). Brand-sponsored versus consumer-generated online brand communities: a thesis presented in fulfilment of the requirements for the degree of Masters of Business Studies in Marketing at Massey University, Auckland, New Zealand.

Nagda, S. (2013). How to Write a Scientific Abstract. *The Journal of Indian Prosthodontic Society*, *13*(3), 382-383.

Web of Science Search Rules. (2009, February 17). Retrieved April 15, 2015, from http://images.webofknowledge.com/WOK46/help/WOS/hs_topic.html#topic_examples

Appendix C. Methodology of codebook

1. Methods of articles analysis
According the sub-questions of this research, the analysis could be divided into four sections; the characteristics of OBCs, Development strategies of OBCs, individual factors which will influence OBCs and impacts of OBCs.

1.1 The characteristics of OBCs belong to OBCs itself without the causal relationships, which is conceptual research.

1.2. Development of OBCs in organizational level

Variables	
Independent variable:	Unknown
Dependent variable:	OBCs

1.3. Individual factors which will influence OBCs

Variables	
Independent variable:	Unknown
Dependent variable:	OBCs

1.4. Impacts of OBCs

Variables	
Independent variable:	OBCs
Dependent variable:	Unknown

Based on the above relations, 51 articles are analysed and categorized in excel sheet 1 (Background information) and 2 (Scientific output).

2. Explanation of the codebook

Make codebook with 4 excel sheets
    Excel sheet 1- background information;
    Excel sheet 2- Scientific output;
    Excel sheet 3- Aggregation of concepts;
    Excel sheet 4- Final document by concluding the previous information for the Gephi analysis)

Excel sheet 1- background information;

The background information contains short names and full names of the articles, year of publishing, the authors of articles and which journal the articles are from. The purpose is to trace back to the original articles once any mistakes are made. Additionally, the journals where articles are published potentially affect the reliability of the research.

Excel sheet 2- Scientific output;
After reading articles, independent, dependent variables and their relationships are identified for preparation of Gephi analysis. In addition, to identify the method of each

article, the results derived from the quantitative research are better than the qualitative research. Remarks in excel sheet 2 are for my own use to double check the independent and dependent variables and relationships that I have recorded.

Excel sheet 3- Aggregation of concepts;

In the third excel sheet about the aggregation of concepts, consumer engagement and participation are the synonyms. As the word "consumer participation" is more cited by the authors, it will be used for aggregating member participation and consumer engagement.

Excel sheet 4- Final document by concluding the previous information for the Gephi analysis)

Sub question 1 Characteristics of OBCs
Background information:
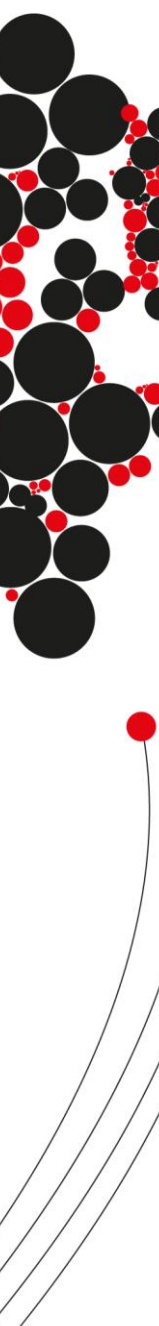
Table 20 Background information of the characteristics of OBCs

Reference No.	Title	Year	Authors	Name journal	Method	Result
2	Consumer engagement in online brand communities: A social media perspective.	2015	Laurence Dessart, Cleopatra Veloutsou and Anna Morgan-Thomas	Journal of Product & Brand Management	Literature review	Three characteristics of brand communities: consciousness of kind, moral responsbility and shared rituals and traditions (Muniz and O' Guinn 2001;Schau and Muniz 2007)
11	The effect of brand personality on brand relationship, attitude and purchase intention with a focus on brand community	2013	Hee Jung Lee, Seoul National University, Myung Soo Kang, Hansung University	Academy of Marketing Studies Journal	Literature review	Three characteristics of brand communities: consciousness of kind, moral responsbility and shared rituals and traditions (Muniz and O' Guinn 2001;Schau and Muniz 2002)
13	Innovative Roles of Brand Community Members: A Typology Based on Cluster Analysis.	2013	Xiao-chuan Wang	*The 19th International Conference on Industrial Engineering and Engineering Management*	Literature review	Three characteristics of brand communities: consciousness of kind, moral responsbility and shared rituals and traditions (Muniz and O' Guinn 2001;Schau and Muniz 2003)

15	Effects of online brand communities on brand equity in luxury fashion industry.	2014	Stefano Brogi, Armando Calabrese, Domenico Campisi, Guendalina Capece, Roberta Costa and Francesca Di Pillo	International Journal of Engineering Business Management	Literature review	Three characteristics of brand communities: consciousness of kind, moral responsbility and shared rituals and traditions (Muniz and O' Guinn 2001;Schau and Muniz 2008)
16	Relationships among community interaction characteristics, perceived benefits, community commitment, and oppositional brand loyalty in online brand communities.	2013	Ying-Feng Kuo, Lien-Hui Feng	*International Journal of Information Management,*	Literature review	Three characteristics of brand communities: consciousness of kind, moral responsbility and shared rituals and traditions (Muniz and O' Guinn 2001;Schau and Muniz 2009)
18	Online brand community response to negative brand events: the role of group eWOM.	2013	Aihwa Chang, Sara H. Hsieh and Timmy H. Tseng	*Internet Research*	Literature review	Three characteristics of brand communities: consciousness of kind, moral responsbility and shared rituals and traditions (Muniz and O' Guinn 2001;Schau and Muniz 2016)
20	Managing brands and customer engagement in online brand communities	2013	Jochen Wirtz, B. Ramaseshan, Joris Van de Klundert, Zeynep Gurhan Canli and Jay Kandampully	Journal of Service Management	Literature review	Three characteristics of brand communities: consciousness of kind, moral responsbility and shared rituals and traditions (Muniz and O' Guinn 2001;Schau and Muniz 2005)
24	Consumer engagement in a virtual brand community: An exploratory analysis.	2013	Roderick J. Brodie, Ana Ilic, Biljana Juric, Linda Hollebeek	Journal of Business Research	Literature review	Three characteristics of brand communities: consciousness of kind, moral responsbility and shared rituals and traditions (Muniz and O' Guinn 2001;Schau and Muniz 2010)
28	The effects of social media based brand communities on brand community markers, value creation	2012	Michel Laroche, Mohammad Reza Habibi, Marie-Odile Richard, Ramesh Sankaranaraya	Computers in Human Behavior	Literature review	Three characteristics of brand communities: consciousness of kind, moral responsbility and shared rituals and traditions (Muniz and O' Guinn 2001;Schau and Muniz 2011)

	practices, brand trust and brand loyalty.		nan		
29	Building online brand communities Exploring the benefits, challenges and risks in the Australian event sector.	2012	Anne-Marie Hede and Pamm Kellett	Journal of vacation marketing	Literatu re review	Three characteristics of brand communities: consciousness of kind, moral responsbility and shared rituals and traditions (Muniz and O' Guinn 2001;Schau and Muniz 2012)
40	Virtual brand community participation and the impact on brand loyalty: A conceptual model.	2011	Bao Lin, Su Ming, Hou Bin	Business Manageme nt and Electronic Informatio n (BMEI), 2011 Internation al Conferenc e on (Vol. 1, pp. 489-492). IEEE.	Literatu re review	Three characteristics of brand communities: consciousness of kind, moral responsbility and shared rituals and traditions (Muniz and O' Guinn 2001;Schau and Muniz 2006)
43	Extending lead-user theory to online brand communities: The case of the community Ducati.	2011	Gianluca Marchi,n, Claudio Giachetti, Pamela de Gennaro	Technovat ion	Literatu re review	Three characteristics of brand communities: consciousness of kind, moral responsbility and shared rituals and traditions (Muniz and O' Guinn 2001;Schau and Muniz 2013)
50	The effect of consumer-to-consumer interactions on idea generation in virtual brand community relationships.	2010	Sou-Chin Wu and Wenchang Fang	*Technovati on*	Literatu re review	Three characteristics of brand communities: consciousness of kind, moral responsbility and shared rituals and traditions (Muniz and O' Guinn 2001;Schau and Muniz 2014)
51	Cross-cultural differences in online brand communities: an exploratory study of Indian and American online brand communities	2010	Vivek Madupu, Delonia O. Cooley	Journal of Internation al Consumer Marketing	Literatu re review	Three characteristics of brand communities: consciousness of kind, moral responsbility and shared rituals and traditions (Muniz and O' Guinn 2001;Schau and Muniz 2004)
57	Personality traits that lead members of online brand communities to participate	2013	Aihwa Chang, Sara H. Hsieh, and Frances Lin	Internation al Journal of Electronic Commerce ,	Literatu re review	Three characteristics of brand communities: consciousness of kind, moral responsbility and shared rituals and traditions (Muniz and O'

	in information sending and receiving.				Guinn 2001;Schau and Muniz 2015)
59	Innovative Activities within Online Brand Community: A Grounded Analysis Based on Netnography.	2012	Xiao-chuan Wang	*INNOVAT ION AND MANAGE MENT.*	Literatu re review	Three characteristics of brand communities: consciousness of kind, moral responsbility and shared rituals and traditions (Muniz and O' Guinn 2001;Schau and Muniz 2017)
60	The influence of belonging to virtual brand communities on consumers' affective commitment, satisfaction and word-of-mouth advertising: The ZARA case.	2011	Marcelo Royo-Vela and Paolo Casamassima	*Online Informatio n Review*	Literatu re review	Three characteristics of brand communities: consciousness of kind, moral responsbility and shared rituals and traditions (Muniz and O' Guinn 2001;Schau and Muniz 2018)
40	Virtual brand community participation and the impact on brand loyalty: A conceptual model.	2011	Bao Lin, Su Ming, Hou Bin	Business Manageme nt and Electronic Informatio n (BMEI), 2011 Internation al Conferenc e on (Vol. 1, pp. 489-492). IEEE.	Literatu re review	A virtual brand community is defined as a customer group with the characteristics of self-selection and non-grographical boundaries formed based on an association with a specific brand (Amine and Sitz 2004).
11	The effect of brand personlaity on brand relationship, attitde and purchase intention with a focus on brand community	2013	Hee Jung Lee, Seoul National University, Myung Soo Kang, Hansung University	Academy of Marketing Studies Journal	Literatu re review	A virtual brand community is defined as a customer group with the characteristics of self-selection and non-grographical boundaries formed based on an association with a specific brand (Amine and Sitz 2005).
12	Relationship between characteristics of virtual brand community	2013	Libing Shu, Haolan Zhang	Journal of Computers	Literatu re review	It has four basic characteristics including information quality, system quality, interaction and return of activity on the basis of

No.		Short	Title	Year	authors	Name journal
		and brand attachment for Nokia BBS Users				virtual community and brand marketing theories(Jang, Olfman, Ko, Koh and Kim, 2008)
33		Open Innovation In Online Brand Communities.	2012	Seppo Pahnila, Karin Vayrynen and Tytti Pokka	Pacific Asia Conferenc e on Informatio n Systems (PACIS)	Literatu re review	It has four basic characteristics including information quality, system quality, interaction and return of activity on the basis of virtual community and brand marketing theories(Jang, Olfman, Ko, Koh and Kim, 2009)
56		Online brand communities: a literature review	2014	Stefano Brogi	2nd World Conferenc e on Business, Economics and Manageme nt- WCBEM2 013	Literatu re review	It has at least four key characteristics; 1) the level of participation and interaction of members in the community and among themselves; 2) the level of quality of relationships within the community and it is expressed in terms of satisfaction, that is overall assessment made by a consumer about sharing in the community and consequently benefits obtained (Adjei et al., 2010; Casalo et al., 2010). 3) the level of identification 4) communication quality

Sub-question 2 Development strategies of OBCs

Background information

Table 21 Background information of development strategies of OBCs

No.	Short	Title	Year	authors	Name journal
5	**FOBCANPS**	Firm-hosted online brand communities and new product success	2014	Richart L. Gruner, Christian Homburg, Bryan A. Lukas	Academy of Marketing Science

17	**HTENPCITOBC?**	How to enhance new product creativity in the online brand community?	2014	Colin C J Cheng, Hsien-Tung Tsai & Dennis Krumwiede	Innovation: Management, Policy and Practice
27	**LTT!MPAEOBCFS**	Let them talk! Managing primary and extended online brand communities for success	2012	Charles H. Noble, Stephanie M. Noble, Mavis T. Adjei	Business Horizons
31	**ERWCTOBC**	Enhancing relationships with customers through online brand communities	2012	Mavis T. Adjei, Charles H. Noble and Stephanie M. Noble	MITSloan Managament Review
36	**OSN:AOBCF**	Online social networks: An online brand community framework	2011	Jeffrey Segrave, Charles Carson, Jeffrey W. Merhout	Association for Information Systems(AIS) Electronic library (AISeL)
39	**HTBUCOBCTISB?IFEI**	How to build up company-managed online brand community to implement SMEs Branding? Inspirations from empirical investigation	2011	Binhui Wang, Huijing Niu, Xuan Guo	IEEE
48	**AESOCCIOBCFI**	An empirical study of consumer contribution in online brand communities for innovation	2010	Mingguo Li, Seung Hyun Kim	AIS Electronic Library (AISeL)
51	**CDIOBClAESOIAAOBC**	Cross-cultural differences in online brand communities: an exploratory study of Indian and American online brand communities	2010	Vivek Madupu, Delonia O. Cooley	Journal of International Consumer Marketing

Scientific output

Table 22 Scientific output of the developments strategies of OBCs

No.	Short	Independent	Dependent	Relationship
5	**FOBC ANPS**	Community types	New product success	Significant effects
		Community types	Product innovativeness	Significant effects
		Community types	Product introduction timing	Significant effects
17	**HTEN PCITO BC?**	The interaction of a creative climate of OBCs	Meanfulness of new product creativity	Significant positive
		Creativity capabilities	Novelty of new product creativity	Significant positive
		Creativity capabilities	Meanfulness of new product creativity	Significant positive
		The interaction between creative climate of an OBC and a firm's creativity capabilities	Novelty of new product creativity	Significant positive
		The interaction between creative climate of an OBC and a firm's creativity capabilities	Meanfulness of new product creativity	Significant positive
		Value creation	Online community success	Significant positive
27	**LTT!M PAEO BCFS**	Harvesting	Online community success	positive
		Conversion	Online community success	positive
		Intervention	Online community success	positive
		Enhance the timeliness of information exchanged	Online communication quality	Positive
31	**ERWC TOBC**	Enhance the relevance of information posted	Online communication quality	Positive
		Extend the conversation	Online communication quality	Positive
		Increase the frequency of information exchanged	Online communication quality	Positive
		Set a purpose for the page	maximizing value	Positive
36	**OSN:A OBCF**	Use the page to build the brand and the community over building products	Motivate the base to loyalty	Positive
		Integrate with Multimedia	Optimize the use of an OSN to bridge the user from partial to full brand exposure	Positive
		Let users share multimedia with the firm	Promote an open atmosphere between OSN users and firms	Positive
		Make the experience personal and special	Develop a further relationship	Positive
		Ask questions	Consumer engagement	Positive
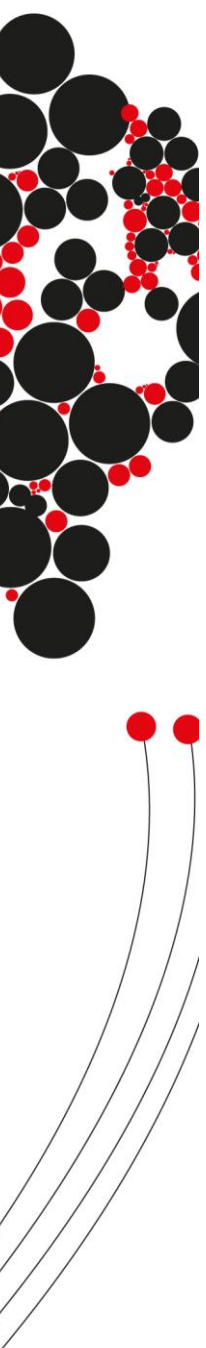
		Ask questions	Follower-firm relationship	Positive
		Ask questions	Intention to co-create value	Positive
		Ask questions	Intention to contribute value	Positive
39	**HTBU COBC TISB**	Climate	Consumer participation	Effects
48	**AESO CCIOB CFI**	Community size	Innovative ideas contribution	Significant negative
		Tenure in community	Innovative ideas contribution	Significant negative
		Consumers' connection to SNS	Innovative ideas contribution	Significant positive
		Consumers' Interest concentration	Innovative ideas contribution	Significant positive
51	**CDIOB CAES OIAA OBC**	Giving information motives	Members participation	Positive
		Social integration motives	Members participation	Positive
		Self-discovery motives	Members participation	Positive
		Status-enhancement motives	Members participation	Positive

Sub-question 3: Influential individual factors
Background information
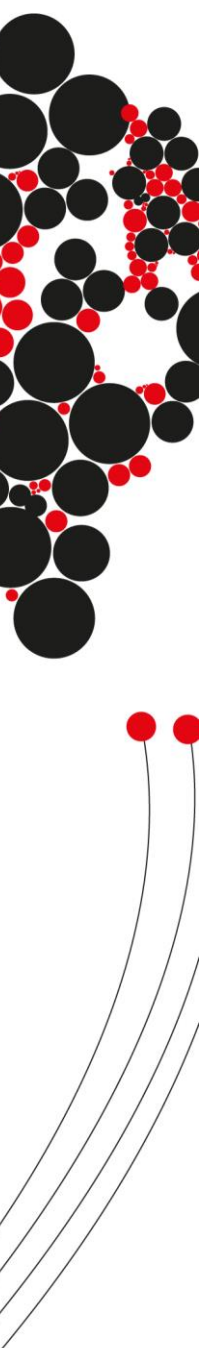
Table 23 Background information of influential individual factors

Referen ce No.	Short	Title	Yea r	authors	Name journal
2	**CEIOBC:ASMP**	Consumer engagement in online brand communities: a social media perspective	201 5	Laurence Dessart, Cleopatra Veloutsou and Anna Morgan-Thomas	Journal of Product & Brand Management
3	**OBCE- SDAV**	Online brand community engagement- scale development and validation	201 5	**Brian J. Baldus, Clay Voorhees, Roger Calantone**	Journal of Business Research
6	**GOT?AEOVOTC:TCOM.C**	Gift or threat? An examination of voice of the customer: the case of MyStarbucksIdea. com	201 4	Hanjun Lee, JinYoung Han, Yongmoo Suh	Electronic Commerce Research and Applications
7	**IOCATOBCORIABT**	Influence of consumer attitude toward online brand community	201 4	Na Young Jung, Soohyun Kim,	Journal of Retailing and Consumer Services

		on revisit intention and brand trust		Soyoung Kim	
8	**NCIAVBC**	Network centrality in a virtual brand community	2014	Bing-sheng Yan, Feng-jie Jing, Yan Yang, Xing-dong Wang	Social Behavior and Personality
13	**IROBCM:ATBOCA**	Innovative roles of brand community members: a typology based on cluster analysis	2013	Xiaochuan Wang	19th International Conference on Industrial engineering and engineering management
14	**TVIMIOBC:EFC**	Transforming visitors into members in online brand communities: evidence from China	2013	Zhimin Zhou, Jane Peihsun Wu, Qiyuan Zhang, Shen Xu	Journal of Business Research
19	**ROMOCEIOBC**	Research on motivations of consumer engagement in online brand community	2013	Dahai, Li	International conference on mechatronics and industrial informatics (ICMII 2013)

20	**MBACEIOBC**	Managing brands and customer engagement in online brand communities	2013	Jochen Wirtz, B. Ramaseshan, Joris Van de Klundert, Zeynep Gurhan Canli and Jay Kandampully	Journal of Service Management
21	**PMPAPPOPCMAB:EFTMPI**	Pre-release member participation as potential predictors of post-release community members' adoption behaviour: evidence from the motion picture industry	2012	Pradeep Kumar Ponnamma Divakaran	Behaviour & Information Technology
22	**BBT:EAOOC**	Building brands together: Emergence and outcomes of co-creation	2015	Nicholas Ind, Oriol Iglesias, Majken Schultz	Carliforlia Management Review
26	**CIIBC:EFC**	Customer interactions in virtual brand communities	2012	Yonggui Wang, Jianjun Shi, Shuang Ma, Guicheng Shi, Lili Yan	Journal of Global Information Technology Management
33	**OIIOBC**	Open innovation in online brand communities	2012	Seppo Pahnila, Karin Vayrynen, Tytti Pokka	Pacific Asia Conference on Information Systems (PACIS)

38	AESOTCMPIVBC	An empirical study on the consumer motivations participating in virtual brand community	2011	Weihong Zhao, Dong Wang	Management and Service Science (MASS), 2011 International Conference
39	HTBUCOBCTISB?IFEI	How to build up company-managed online brand community to implement SMEs Branding? Inspirations from empirical investigation	2011	Binhui Wang, Huijing Niu, Xuan Guo	IEEE
40	VBCPATIOBL:ACM	Virtual brand community participation and the impact on brand loyalty: a conceptual model	2011	Bao Lin, Su Ming, Hou Bin	IEEE
45	M,M:AIOATEIABCM	Mini-lovers, maxi-mouths: An investigation of antecedents to eWOM intention among brand community members	2011	Yi-Hsin Yeh and Sejung Marina Choi	Journal of Marketing Communications
46	HVBCIOCBE	How virtual brand community influences on consumer-based brand equity	2011	Wei Li	IEEE
47	TIOOBCTOCCEB:CVMOBCIOSWS	The impact of online brand community type on consumer's community engagement behaviours: consumer-created vs. Marketer-created online branc ommunity in online social-networking websites	2011	Doohwang Lee, Hyuk Soo Kim and Jung Kyu Kim	Cyberpsychology, Behavior and Social Networking
48	AESOCCIOBCFI	An empirical study of consumer contribution in online brand communities for innovation	2010	Mingguo Li, Seung Hyun Kim	AIS Electronic Library (AISeL)

Reference No.	Short	Title	Year	authors	Name journal
49	**AESOKCPIVBCISNS**	An explorative study of Korean consumer participation in virtual brand communities in social network sites	2010	Yongjun Sung, Yoojung Kim, Ohyoon Kwon, Jangho Moon	Journal of Global Marketing
50	**TEOCIOIGIVBCR**	The effect of consumer-to-consumer interactions on idea generation in virtual brand community relationships	2010	Sou-Chin Wu, Wenchang Fang	Technovation
52	**AACOOBCP:ACF**	Antecedents and consequences of online brand community participation: a conceptua framework	2010	Vivek Madupu & Delonia O. Cooley	Journal of Internet Commerce
53	**WSIS?ECMATOKS**	Why should I share? Examining consumers' motives and trust on knowledge sharing	2010	Waan-Yih Wu & Badri Munir Sukoco	Journal of Computer Information Systems
54	**DSM?AEOSALWBC**	Does size matter? An examination of small and large web-based brand communities	2010	Daniele Scarpi	Journal of Interactive marketing
55	**TIOCCIOBCOCPB**	The influence of C2C communications in online brand communities on customer purchase behavior	2010	Mavis T. Adjei, Stephanie M. Noble, Charles H. Noble	Journal of the Academy Marketing Science

Sub-question 4 Impacts of OBCs

Table 24 Background information of the impacts of OBCs

Reference No.	Short	Title	Year	authors	Name journal
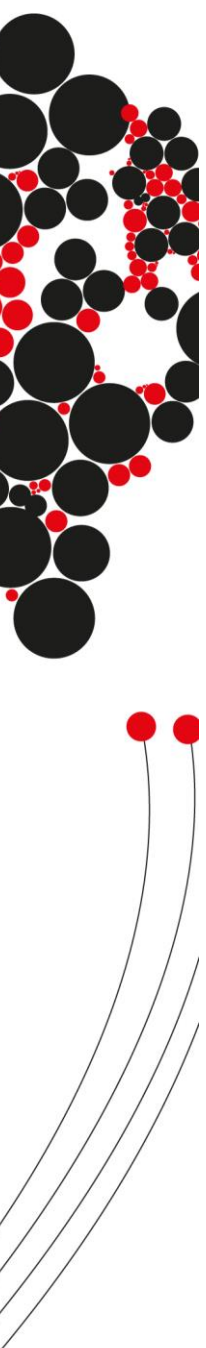
1	**BBLTUEIOBCISNS**	Building brand loyalty through user engagement in online brand communities in social networking sites	201 5	Xiabing Zheng, Christy M.K.Cheung, Matthew K.O.Lee, Liang Liang	Information Technology & People
2	**CEIOBC:ASMP**	Consumer engagement in online brand communities : a social media perspective	201 5	Laurence Dessart, Cleopatra Veloutsou and Anna Morgan-Thomas	Journal of Product & Brand Management
4	**EOOBCOCVERMFVRFT**	Effect of online brand community on customer value exploration reconcilin mixed findings via regulatory focus theory	201 4	Ji Wu, Liqiang Huang, J. Leon Zhao, Zhongsheng Hua	Thirty Fifth International Conference on Information Systems, Auckland 2014
5	**FOBCANPS**	Firm-hosted online brand communities and new product success	201 4	Richart L. Gruner, Christian Homburg, Bryan A. Lukas	Academy of Marketing Science
7	**IOCATOBCORIABT**	Influence of consumer attitude toward online brand community on revisit intention and brand trust	201 4	Na Young Jung, Soohyun Kim, Soyoung Kim	Journal of Retailing and Consumer Services
9	**TIONEIAOBCOCIA**	The influence of negative emotions in an online brand community on customer innovation activities	201 4	Hanjun Lee, Suyeon Jeong, Yongmoo Suh	47th Hawaii International Conference on System Science

11	**TEOBPOBR, AAPIWAFOBC**	The effect of brand personlaity on brand relationship, attitde and purchase intention with a focus on brand community	2013	Hee Jung Lee, Seoul National University, Myung Soo Kang, Hansung University	Academy of Marketing Studies Journal
12	**RBCOVBCABAFNBU**	Relationship between characteristics of virtual brand community and brand attachment for Nokia BBS Users	2013	Libing Shu, Haolan Zhang	Journal of Computers
16	**RACIC,PB,CCAOBLIOBC**	Relationships among community interaction characteristics, perceived benefits, community commitment and oppositional brand loyalty in online brand communities	2013	Ying-Feng Kuo, Lien-Hui Feng	International Journal of Information Management
20	**MBACEIOBC**	Managing brands and customer engagement in online brand communities	2013	Jochen Wirtz, B. Ramaseshan, Joris Van de Klundert, Zeynep Gurhan Canli and Jay Kandampully	Journal of Service Management
23	**CPBOIIAVBCIC**	Customers' perceived benefits of interacting in a virtual brand community in China	2013	Yonggui Wang, S. Fiona Chan, Zhilin Yang	Journal of Electronic Commerce Research

24	CEIAVBC	Consumer engagement in a virtual brand community	2011	Roderick J. Brodie, Ana Ilic, Biljana Juric, Linda Hollebeek	Journal of Business Research
28	TEOSMBBCOBCM,VCP,BTABL	The effects of social media based brand communities on brand community markers, value creation practices, brand trust and brand loyalty	2012	Michel Laroche, Mohammad Reze Habibi, Marie-Odile Richard, Ramesh Sankaranarayanan	Computers in Human Behavior
30	HDBCGBR?IM	How do brand communities generate brand relationships? Intermediate mechanisms	2011	Zhimin Zhou, Qiyuan Zhang, Chenting Su, Nan Zhou	Journal of Business Research
34	DOBCHBAMRWC?ANTA	Do online brand communities help build and maintain relationships with consumers? A network theory approach	2011	Hyun Joung Lee, Doo-Hee Lee, Charles R. Taylor, Jong-Ho Lee	Journal of Brand Management
36	OSN:AOBCF	Online social networks: An online brand community framework	2011	Jeffrey Segrave, Charles Carson, Jeffrey W. Merhout	Association for Informaion Systems(AIS) Electronic library (AISeL)
40	VBCPATIOBL:ACM	Virtual brand community participation and the impact on brand loyalty: a conceptual model	2011	Bao Lin, Su Ming, Hou Bin	IEEE

42	**BBLTMBCC**	Building brand loyalty through managing brand commnity commitment	2011	Won-Moo Hur, Kwang-Ho Ahn, Minsung Kim	Emerald Insight
44	**ASOTIOOBCIMOBL**	A study on the impact of online brand community interaction model on brand loyalty	2011	Jina Lee, I-Chun Chang, Yong Su	IEEE
46	**HVBCIOCBE**	How virtual brand community influences on consumer-based brand equity	2011	Wei Li	IEEE
47	**TIOOBCTOCCEB:CVMOBCIO SWS**	The impact of online brand community type on consumer's community engagement behaviours: consumer-created vs. Marketer-created online branc ommunity in online social-networking websites	2011	Doohwang Lee, Hyuk Soo Kim and Jung Kyu Kim	Cyberpsycholo gy, Behavior and Social Networking
52	**AACOOBCP:ACF**	Antecedents and consequences of online brand community participation : a conceptual framework	2010	Vivek Madupu & Delonia O. Cooley	Journal of Internet Commerce

56	**OBC:ALR**	Online brand communities : a literature review	2014	Stefano Brogi	2nd World Conference on Business, Economics and Management-WCBEM2013
60	**TIOBTVBCOAC,SAWA:TZC**	The influence of belonging to virtual brand communities on consumers' affective commitment, satisfaction and word-of-mouth advertising: The ZARA case	2011	Marcelo Royo-Vela Paola Casamaasima	Online Information Review

Final document for sub-question 3 and 4

Table 25 Final document for influential individual factors and impacts of OBCs
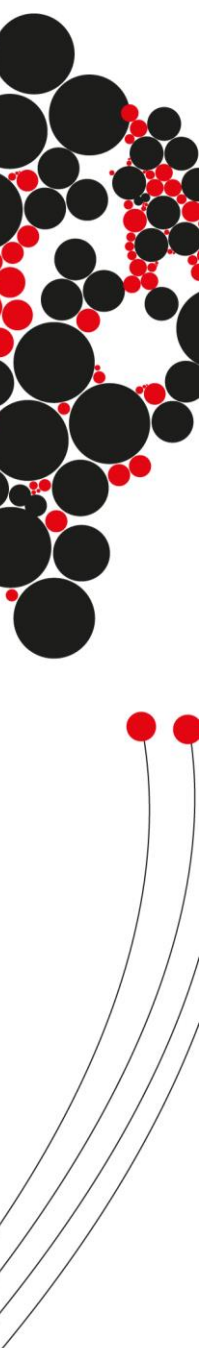
No.	Independent	Dependent	Relationship
1	Community commitment	Brand loyalty	Significant positive
1	Consumer participation	Brand loyalty	Significant positive
1	Consumer participation	Brand loyalty	Significant positive
1	Consumer participation	Community commitment	Significant positive
1	Consumer participation	Community commitment	Significant positive
1	Perceived benefits	Consumer participation	Significant positive
1	Perceived costs	Consumer participation	No significant negative
1	Perceived benefits	Consumer promotion	Significant positive
1	Perceived costs	Consumer promotion	No significant negative
2	Consumer participation	Brand loyalty	Positive
2	Consumer participation	Brand loyalty	Effects
2	Brand identification	Consumer participation	Positive
2	Brand satisfaction	Consumer participation	Positive
2	Brand trust	Consumer participation	Positive
2	Community identification	Consumer participation	Positive
2	Community value	Consumer participation	Positive

3	Brand influence	Consumer participation	Significant effects
3	Brand passion	Consumer participation	No
3	Connection	Consumer participation	Significant effects
3	Hedonic	Consumer participation	Significant effects
3	Helping	Consumer participation	Significant effects
3	Information	Consumer participation	Significant negative
3	Like-minded discussion	Consumer participation	Significant effects
3	Seeking assistance	Consumer participation	Significant negative
3	Self-expression	Consumer participation	Significant effects
3	Utilitarian	Consumer participation	No
3	Validation	Consumer participation	No
4	Consumer participation	Customer visit frequncy	Significant positive
4	Consumer participation	Purchase frequency	Significant positive
6	Consumer expectation	Consumer interactions	Partially significant positive
6	Opinion leaders' participation	Consumer interactions	Partially significant positive
6	Consumer expectation	Organizational innovation	Partially significant positive
6	Opinion leaders' participation	Organizational innovation	No
7	Consumer attitude	Brand trust	Significant effects
7	Perceived beneifts	Consumer attitude	Significant positive
7	Consumer attitude	Re-visit intention	Significant effects
8	Consumer perception of psychological ownership	Citizenship behavior that benefits community	Significant positive
8	Consumer perception of psychological ownership	Citizenship behavior that benefits consumer	Significant positive
8	Age	Consumer betweenness centrality	No significant effects
8	Consumer participation frequency	Consumer betweenness centrality	Significant effects
8	Educational background	Consumer betweenness centrality	No significant effects
8	Gender	Consumer betweenness centrality	No significant effects

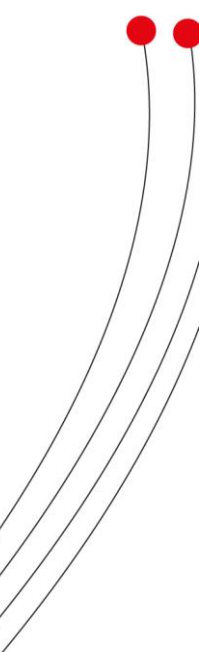| 8	Occupation	Consumer betweenness centrality	No significant effects
8	Social enhancement	Consumer betweenness centrality	Significant positive
8	Age	Consumer degree centrality	No significant effects
8	Educational background	Consumer degree centrality	No significant effects
8	Gender	Consumer degree centrality	No significant effects
8	Occupation	Consumer degree centrality	No significant effects
8	Social enhancement	Consumer degree centrality	Significant positive
8	Consumer betweenness centrality	Consumer perception of psychological ownership	Significant positive
8	Consumer degree centrality	Consumer perception of psychological ownership	Significant positive
9	Negative emotions	Drawing support	Significant positive
9	Negative emotions	Innovative ideas contribution	Significant positive
9	Negative emotions	Promoting customers discussion	Significant positive
11	Brand personality	Brand attitude	Partially significant effects
11	Brand personality	Consumer-brand relationship	Partially significant effects
11	Brand attitude	Purchase intention	Significant positive
11	Consumer-brand relationship	Purchase intention	Significant positive
12	Community information quality	Brand attachment	Effects
12	Community participation degree	Brand attachment	Significant positive
12	Community participation frequency	Brand attachment	Significant positive
12	Community service management	Brand attachment	Significant positive
12	Community system quality	Brand attachment	Effects
13	Brand identification	Community identification	Significant positive
13	Brand identification	Consumer participation in innovation	Significant positive
13	Community identification	Consumer participation in innovation	Significant positive
14	Viewing posts	Consumer participation intention	Significant positive
16	Perceived benefits	Community commitment	Partially significant positive
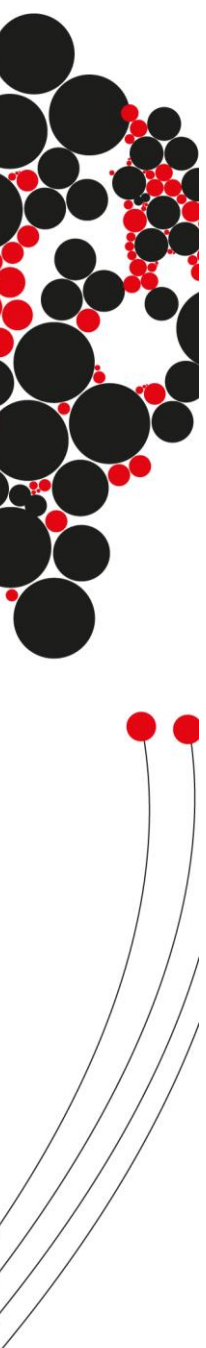
16	Community commitment	Oppositional brand loyalty	Significant positive
16	Community interactivity	Perceived benefits	Partially significant positive
16	Community participation	Perceived benefits	Significant positive
16	Information sharing	Perceived benefits	Partially significant positive
19	Achievement	Consumer participation	Significant positive
19	Hedonic	Consumer participation	Significant positive
19	Information	Consumer participation	Significant positive
19	Social intercourse	Consumer participation	Significant positive
20	Consumer participation	Brand commitment	Positive
20	Consumer participation	Brand commitment to participation	Positive
20	Consumer participation	Brand image	Positive
20	Consumer participation	Brand loyalty	Positive
20	Consumer participation	Brand participation	Positive
20	Consumer participation	Brand satisfaction	Positive
20	Consumer participation	Community loyalty	Positive
20	Consumer participation	Community satisfaction	Positive
20	Brand identification	Consumer participation	Positive
20	Brand's symbolic function	Consumer participation	Positive
20	Information quality	Consumer participation	Positive
20	Social benefits	Consumer participation	Positive
20	Social identification	Consumer participation	Positive
20	Uncertainty avoidance	Consumer participation	Positive
20	Utilitarian	Consumer participation	Positive
20	Consumer participation	Consumer participation intention	Positive
20	Consumer participation	Consumer-brand relationship	Positive
20	Consumer participation	Flexible and integrated firm structure	Positive
20	Consumer participation	Idea generation for improvement	Positive
20	Consumer participation	Sales	Positive

21	Community adoption behaviour	Market adoption behaviour	Significant positive
21	Pre-release consumer adoption intention	Post-release consumer adoption behaviour	Significant positive
22	Brand intimacy	Consumer participation	Positive
22	Community identification	Consumer participation	Positive
22	Community trust	Information sharing	Positive
22	Consumer participation	Innovative ideas contribution	Positive
23	Perceived benefits	Brand loyalty	Partially significant positive
23	Perceived benefits	Community participation	Significant positive
23	Consumer interactions	Perceived benefits	Partially significant positive
24	Consumer participation	Brand trust	Positive
24	Consumer participation	Community commitment	Positive
24	Consumer participation	Connection	Positive
24	Consumer participation	Consumer loyalty	Positive
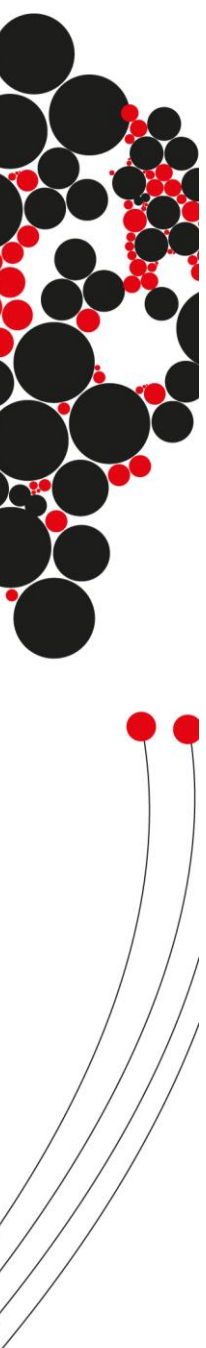
24	Consumer participation	Emotional bonding	Positive
24	Consumer participation	Empowerment	Positive
24	Consumer participation	Consumer satisfaction	Positive
26	Hedonic	Consumer interactions	Partially significant effects
26	Utilitarian	Consumer interactions	Partially significant effects
28	Brand trust	Brand loyalty	Significant positive
28	Brand use practices	Brand trust	Significant positive
28	Community participation practices	Brand trust	No significant positive
28	Impression management practices	Brand trust	Significant positive
28	Social networking practices	Brand trust	No significant positive
28	Consciousness of kind	Brand use practices	Significant positive
28	Moral responsibility	Brand use practices	Significant positive
28	Shared rituals and traditions	Brand use practices	Significant positive
28	Consciousness of kind	Community participation practices	Significant positive
28	Moral responsibility	Community participation practices	Significant positive
28	Shared rituals and traditions	Community participation practices	Significant positive
28	Social media based brand	Consciousness of kind	Significant positive

	communities		
28	Consciousness of kind	Impression management	No significant positive
28	Moral responsibility	Impression management	Significant positive
28	Shared rituals and traditions	Impression management	Significant positive
28	Social media based brand communities	Moral responsibility	Significant positive
28	Social media based brand communities	Shared rituals and traditions	Significant positive
28	Consciousness of kind	Social networking practices	Significant positive
28	Moral responsibility	Social networking practices	Significant positive
28	Shared rituals and traditions	Social networking practices	Significant positive
30	Brand identification	Brand attachment	Significant positive
30	Community commitment	Brand attachment	Significant positive
30	Brand attachment	Brand commitment	Significant positive
30	Brand identification	Brand commitment	Significant positive
30	Community commitment	Brand commitment	Significant positive
30	Community identification	Brand identification	Significant positive
30	Community identification	Community commitment	Significant positive
33	Emotional value	Brand trust	Significant positive
33	Functional value	Brand trust	Significant positive
33	Social value	Brand trust	Significant positive
33	Brand trust	Consumer participation intention in open innovation	Significant positive
33	Domain specific skills	Consumer participation intention in open innovation	No significant positive
33	Hedonic	Consumer participation intention in open innovation	Significant positive
33	Information sharing	Consumer participation intention in open innovation	Significant positive
33	Knowledge sharing	Consumer participation intention in open innovation	Significant positive
33	Social cohension	Consumer participation intention in open innovation	No significant positive
33	Social identification	Consumer participation intention in open innovation	No significant positive
33	Utilitarian	Consumer participation intention in open innovation	Significant positive
33	Hedonic	Information sharing	Significant positive
33	Social cohension	Information sharing	No significant positive
33	Social identification	Information sharing	No significant positive
33	Utilitarian	Information sharing	Significant positive
33	Hedonic	Knowledge sharing	Significant positive
33	Social cohension	Knowledge sharing	No significant positive
33	Social identification	Knowledge sharing	No significant positive
33	Utilitarian	Knowledge sharing	Significant positive
34	Consumer betweenness centrality	Emotional attachment	Significant positive

34	Consumer betweenness centrality	Emotional attachment	No
34	Consumer closeness	Emotional attachment	No
34	Consumer closeness	Emotional attachment	No
34	Consumer homophily	Emotional attachment	Significant positive
34	Consumer degree centrality	Emotional attachment	No
34	Consumer degree centrality	Emotional attachment	Significant negative
34	Consumer density	Emotional attachment	Significant positive
34	Consumer interactions	Emotional attachment	Significant positive
34	Emotional attachment	Information sharing	Significant positive
34	Emotional attachment	Relationship maintaining	Significant positive
34	Emotional attachment	Re-purchase intention	Significant positive
38	Information	Consumer participation	Significant positive
38	Information quality	Consumer participation	Significant positive
38	Obtaining preferential treatment	Consumer participation	Partially significant positive
38	Seeking offline interactions	Consumer participation	No significant positive
38	Sharing post-purchase experience	Consumer participation	Significant positive
39	Excellent user experience	Attracting consumers	Positive
39	Neat user interface	Attracting consumers	Positive
39	Consumer participation	Community development	Effects
39	Excellent user experience	Corporate identification	Positive
39	Neat user interface	Corporate identification	Positive
40	Community participation	Brand loyalty	Effects
40	Brand experience	Consumer participation	Positive
40	Community identification	Consumer participation	Positive
40	Community trust	Consumer participation	Positive
40	Information sharing	Consumer participation	Positive
40	Interpersonal consumer interactions	Consumer participation	Positive
42	Community commitment	Brand word-of-mouth	Significant positive
42	Brand trust	Community commitment	Significant positive
42	Community affect	Community commitment	Significant positive
42	Community commitment	Constructive complaints	Significant positive
42	Community commitment	Re-purchase intention	Significant positive
44	Community identification	Brand identification	Significant positive
44	Consumer-brand interactions	Brand identification	Significant positive
44	Brand identification	Brand loyalty	Significant positive
44	Community identification	Brand loyalty	Partially significant positive
44	Consumer interactions	Community identification	Significant positive
45	Brand identification	Brand loyalty	Significant positive

45	Brand identification	Community identification	Significant positive
45	Community identification	Community trust	Significant positive
45	Brand loyalty	Information giving	No significant positive
45	Community trust	Information giving	Partially significant positive
45	Brand loyalty	Information receiving	Significant positive
45	Community trust	Information receiving	Partially significant positive
45	Brand loyalty	Information sending	Significant positive
45	Community trust	Information sending	Significant positive
46	Consumer participation	Brand cognition	Significant positive
46	Consumer participation	Brand image	Significant positive
46	Consumer participation	Brand loyalty	No significant positive
46	Community communication	Consumer participation	Significant positive
46	Community identification	Consumer participation	Significant positive
46	Community trust	Consumer participation	Significant positive
46	Consumer satisfaction	Consumer participation	Significant positive
47	Social identification	Consumer participation intention	Significant positive
48	Consumers' Interest concentration	Innovative ideas contribution	Significant positive
49	Brand likeability	Consumer participation	Significant positive
49	Convenience seeking	Consumer participation	Significant positive
49	Entertainment seeking	Consumer participation	Significant positive
49	Incentive seeking	Consumer participation	Significant positive
49	Information seeking	Consumer participation	Significant positive
49	Interpersonal utility	Consumer participation	Significant positive
50	Consumer interactions	Innovative ideas contribution	Significant positive
52	Consumer participation	Brand loyalty	Positive
52	Moral responsibility	Brand recommendation intention	Positive
52	Consumer participation	Consciousness of kind	Positive
52	Hedonic	Consumer participation	Positive
52	Social integration	Consumer participation	Positive
52	Information	Information seeking	Positive
52	Information	Information using	Positive
52	Social enhancement	Consumer participation intensity	Positive
52	Consumer participation	Moral responsibility	Positive
52	Consciousness of kind	Oppositional brand loyalty	Positive
52	Information	Passive consumer participation	Positive
52	Consumer participation	Shared rituals and traditions	Positive
52	Consciousness of kind	Sustainable brand loyalty	Positive
52	Self-discovery	Sustainable brand loyalty	Positive
52	Shared rituals and traditions	Sustainable brand loyalty	Positive
53	Achievement	Behavioral intention	Significant positive
53	Connection	Behavioral intention	Significant negative
53	Knowledge sharing	Behavioral intention	Significant positive

53	Power	Behavioral intention	Significant positive
53	Achievement	Knowledge sharing behaviours	Significant positive
53	Connection	Knowledge sharing behaviours	No significant positive
53	Power	Knowledge sharing behaviours	No significant positive
54	Community identification	Brand affect	Significant positive
54	Brand affect	Brand word-of-mouth	Significant positive
54	Brand affect	Brand loyalty	Significant positive
54	Community loyalty	Brand loyalty	Significant positive
54	Community identification	Community loyalty	Significant positive
54	Brand word-of-mouth	Community word-of-mouth	Significant effects
55	Uncertainty reduction	Purchase breadth	Significant positive
55	Uncertainty reduction	Purchase depth	Significant positive
55	Communication quality	Uncertainty reduction	Significant positive
56	Community identification	Brand loyalty	Positive
56	Consumer interactions	Brand loyalty	Positive
56	Consumer participation	Brand loyalty	Positive
56	Consumer satisfaction	Brand loyalty	Positive
56	Community identification	Community promotion process	Positive
56	Consumer interactions	Community promotion process	Positive
56	Consumer participation	Community promotion process	Positive
56	Consumer satisfaction	Community promotion process	Positive
56	Communication quality	Purchase decisions	Positive
56	High competences consumer	Purchase decisions	Positive
57	Extraverted personality	Activity needs	Significant positive
57	Value consciousness	Community identification	Significant positive
57	Activity needs	Community identification frequency	Significant positive
57	Information needs	Community identification frequency	Significant positive
57	Interpersonal relationship needs	Community identification frequency	Significant positive
57	Conscientious personality	Information needs	Significant positive
57	Openness to experience personality	Information needs	Significant positive
57	Community identification	Information receiving	Significant positive
57	Innovation	Information receiving	No
57	Value consciousness	Information receiving	Significant positive
57	Community identification	Information sending	Significant positive
57	Information needs	Innovative ideas contribution	Significant positive

57	Openness to experience personality	Innovative ideas contribution	Significant positive
57	Agreeable personality	Interpersonal relationship needs	Significant positive
57	Extraverted personality	Interpersonal relationship needs	Significant negative
57	Neurotic personality	Interpersonal relationship needs	Significant positive
57	Information needs	Value consciousness	No
60	Community belongingness	Affective brand commitment	Significant positive
60	Consumer participation	Affective brand commitment	Partially significant positive
60	Community belongingness	Brand word-of-mouth	Significant positive
60	Consumer participation	Brand word-of-mouth	No significant positive
60	Community belongingness	Consumer satisfaction	Significant positive
60	Consumer participation	Consumer satisfaction	Partially significant positive