Customer Engagement: Conceptualisation, Measurement and Validation

Mojtaba Poorrezaei

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This thesis is dedicated with a special feeling of gratitude to my loving wife, Soma, for her constant love and support.

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DECLARATION

The author has used different parts of the thesis in the following publications:

Poorrezaei, M (2015). *Online Brand Community: The Elaboration Likelihood Model Perspective, Academy of Marketing e-Marketing SIG*, University of Birmingham, Birmingham.

Poorrezaei, M (2015). *A Model of Customer Engagement in Online Brand Community: The Dual-Intention Information Processes*, British Academy of Management e-Business and e-Government SIG, University of Bradford, Bradford.

Poorrezaei, M and A. Heinze (2014). *SME Competitiveness through Online Brand Communities: Brand Loyalty Perspective*, ISBE14 conference, Manchester.

Poorrezaei, M and A. Heinze (2014). *Consumer Engagement Persuasion Process in Online Brand Communities: Social Influence Theory Perspective*, British Academy of Management, Belfast, Northern Ireland.

Poorrezaei, M (2013). *Cues to Source Credibility in Social Networking Sites*, Salford Postgraduate Annual Research Conference (SPARC), University of Salford, Salford. (Awarded for the best presentation)

Poorrezaei, M (2013). *Online Persuasion Process: Conceptualisation of Social Influence in Online Context*, iSchool Postgraduate Research Conference, University of Sheffield, Sheffield.

Poorrezaei, M (2013). *Online Persuasion Process: A Critical Literature Review of Prior Research*, iFuture, University of Sheffield, Sheffield.

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ABBREVIATIONS

The following abbreviations are used in this thesis:

AMT – Amazon Mechanical Turk

BC – Brand Community

BI – Brand Identification

BL – Brand Loyalty

CBI – Customer Brand Identification

CE – Customer Engagement

CRM – Customer Relationship Management

CS – Customer Satisfaction

ELM – Elaboration Likelihood Model

GN – Group Norm

IQ – Information Quality

IS – Information System

IT – Information Technology

OBC – Online Brand Community

BOS – Bristol Online Survey

SEM – Structural Equation Modelling

SNS – Social Networking Sites

TAM – Technology Acceptance Model

TPB – Theory of Planned Behaviour

TRA – Theory of Reasoned Action

UGC – User Generated Content

WOM – Word Of Mouth

ZMOT – Zero Moment of Truth

DEFINITION OF TERMS

Brand community: *"a specialised, non-geographically bound community, based on a structured set of social relationships among admirers of a brand" (Muniz and O'Guinn, 2001)*

Embedded online community: "*brand communities within social networks" (Zagila, 2013)*

Netnography: *"It is a qualitative research methodology, which adapts ethnographic research technique to the study of online communities" (Kozinets, 1999)*

Online brand community: "*a specialised, non-geographically bound, online community, based on social communications and relationships among a brand's consumers*" (De Valck et al., 2009)

Social influence: "*Information by and pressures from individuals, groups, and the mass media that affect how a person behaves" (Hoyer and MacInnis, 2007)*

Social media: "*Websites and applications that enable users to create and share content or to participate in social networking" (Oxford Dictionary, 2015)*

Social networking site: "*web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system" (Boyd and Ellison, 2007)*

Virtual community of consumption: "*affiliative groups whose online interactions are based upon a shared enthusiasm for, and knowledge of, a specific consumption activity or related group of activities" (De Valck et al., 2009)*

Web 2.0 technologies: *"Web 2.0 is the second generation of Web development. It is a more advanced way to communicate with people around the world, through blogs, video, or Web sites such as Myspace, Facebook, and Friendster"* (Anderson, 2012)

Word of Mouth: *"Informal, person-to-person communication between a perceived non-commercial communicator and a receiver regarding a brand, a product, an organization, or a service" (Harrison-Walker, 2001)*

ABSTRACT

Understanding the dynamics of focal customer/brand relationships has gained the interest of both scholars and marketers in the last three decades. Particularly, identifying the means of building enduring relationships with customers has been a popular research stream. In recent years, the concept of *engagement* has been proposed to comprehensively reflect the nature of the customer/brand relationship. Customer engagement has been viewed as a valuable factor for gauging brand performance as well as a strategic imperative for establishing competitive advantage. Since 2010, an influential exploratory research stream has emerged to address the concept of engagement. However, despite the growing scholarly interest, the lack of empirical research regarding customer engagement has resulted in a limited understanding of the concept and its measurement. Following a systematic review of customer engagement studies, one limitation was apparent: **the lack of a reliable and valid customer engagement scale**. As such, the current research responds to the call made in two pioneering theoretical studies to develop a construct scale. Specifically, a two-stage research design, including three phases, was adopted to develop a reliable and valid construct scale.

The first phase includes item generation from the existing literature and expert item judging. Two studies with two independent samples were conducted in the second and the third phases. The current research employed a numerous Confirmatory Factor Analysis (CFA) and Exploratory Factor Analysis (EFA) to purify the generated items obtained from the first phase. The analyses were performed to examine the internal consistency, and discriminant and convergent validity of the scale. The findings provided evidence for a second-order customer engagement construct comprising five first-order constructs as follows: socialising, learning, sharing, advocating and co-developing. The current research has also developed a model of customer engagement in the online brand community in order to test the nomological validity of the newly developed scale. Based on the Elaboration Likelihood Model, the proposed model includes *community identification, brand identification, information quality* and *group norm* as antecedents and *brand loyalty* and *customer satisfaction* as consequences.

The current research contributes further insights into the nature of the engagement concept in four ways: first, it develops a valid and reliable scale that exhibits the multi-dimensional conceptualisation of the construct. Second, it applies the new measure to examine the relationships between customer engagement with potential antecedents and consequences. Third, managers can use the newly developed scale to measure the customer engagement level to have a better understanding of customer behaviour in the online brand community. Finally, the developed model of engagement can help managers to understand the factors that influence customer engagement in the online brand community and the important role of customer engagement in brand loyalty and customer satisfaction.

Chapter One

Introduction

1.1 Background of the Study

Research on specific customer/brand relationships has gained significant attention from scholars in the last three decades (Brodie and Hollebeek, 2011; Hollebeek et al., 2014). Particularly, a powerful research stream has emerged to explore the new possibilities of relationships that have been enabled with the advancement of the Internet and various technologies (Hollebeek et al., 2014). Customer 'participation' and 'involvement', which reflect the level of interest in a brand, constitute a large part of this emerging body of research. The research on customer 'participation' and 'involvement' includes both theoretical and empirical research (Bagozzi and Dholakia, 2002; Bagozzi and Dholakia, 2006; Coulter et al., 2003; Dholakia et al., 2004). Empirical research has examined the relationship between customer 'participation' or 'involvement' with potential antecedents and consequences. The efforts of theoretical research have been mainly to investigate the nature and understanding of customer behaviour in relationship to a brand (Brodie and Hollebeek, 2011; Hollebeek, 2011b; Vivek et al., 2012). However, despite the important insights gained from this large segment of research, scholars' recent focus is shifting to concepts that explain or predict the dynamic of the focal customer's relationship with brand more explicitly (Hollebeek et al., 2014). With the emergence of Web 2.0 technologies, the scholarly focus is shifting to specific social media settings.

The term 'engagement' has been introduced to explain explicitly customers' interactive brand-related dynamics. In comparison to traditional concepts including 'involvement' and 'participation', 'customer engagement' has been postulated to reflect the nature of customer relationships with brands more comprehensively. Brodie et al. (2013: 107) define 'customer engagement' as "a psychological state that occurs by virtue of interactive, co-creative customer experience with a focal agent/object (e.g. a brand)". The newly developed 'customer engagement' concept has become important due to recent technological innovations that have enabled new possibilities of interaction between customers and brands (Baldus et al., 2015). As a result of the rise of the Internet and technological advancement, the Online Brand Community

(OBC) has been used to facilitate the relationship between customers and brands (De Valck et al., 2009).

With the development of information and communication technologies, online brand communities have been formed to provide a platform for customer/brand relationships. Zagila (2013) believes that the OBC is the biggest change in business for 100 years. Muniz and O'Guinn (2001) define the concept of Brand Community (BC) as "a specialised, non-geographically bound community, based on a structured set of social relationships among admirers of a brand". The definition has been developed by De Valck et al. (2009) to introduce OBC as "a specialised, non-geographically bound, online community, based on social communications and relationships among a brand's customers". Brodie et al. (2013) highlight the importance of customer engagement as central to discussions about online brand communities. The concept of 'customer engagement' is used to describe the nature of customer relationships with the brands in online brand communities.

Customer engagement has gained the interests of both practitioners and scholars due to the role of the concept in the attainment of superior organisational performance outcomes. The level of engagement with a brand has been expected to be a valuable predictor of future business performance. Specifically, a number of studies have explored the underlying role of customer engagement as a valuable predictor of future business performance (Sedley, 2010), as a primary driver of sales growth (Neff, 2007), as a strategic imperative for establishing and sustaining a competitive advantage and also as an important factor in enhancing profitability (Voyles, 2000). Importantly, Hollebeek et al. (2014) view customer engagement as a key new metric for gauging brand performance. On the other hand, the Marketing Science Institute's (MSI) 2010 Research Priorities (MSI - Marketing Science Institute, 2010) and American Marketing Association (AMA) (American Marketing Association, 2013) underline the needs for further research in terms of the customer engagement concept, particularly in social media settings. The MSI identifies 'customer engagement' as a key research area that needs to be explored to enhance academic insight into customer behaviour in complex environments.

Although recent years have witnessed the beginning of interest in understanding the customer engagement concept, there is a lack of a clear conceptualisation of the customer engagement construct in the online brand community (Brodie and Hollebeek, 2011; Brodie et al., 2013; Hollebeek, 2011b; Hollebeek et al., 2014). To the author's best knowledge, there has been only

one attempt to empirically measure the customer engagement construct in an online brand community. To date, customer engagement has been used interchangeably with similar terms such as customer participation, involvement and interaction. The lack of a clear definition of customer engagement has caused the construct to be misused. A large body of studies has used the scale items of the customer participation construct from the study of Dholakia et al. (2004) to measure customer engagement. The other research efforts to measure the customer engagement construct include the addition and deletion of items from Dholakia et al.'s study. Additionally, prior studies such as Dholakia et al. (2004) and Bagozzi and Dholakia (2006) operationalised customer engagement as a unidimensional construct. By doing so, these prior studies ignore the conceptual richness of the construct (Brodie et al., 2013). A lack of studies exploring the dimensions of customer engagement limits the understanding and prediction of customer behaviour in online brand communities. The current research aims to address this significant gap by developing a valid and reliable scale to clear the path for future empirical research.

Although previous studies have examined motivations of customer engagement, these initial investigations are now a decade old (Baldus et al., 2015). Although there have been recent technological advancements regarding online brand communities and the increased Internet penetrations as well as social media adoption rates, there have been few attempts to explore motivations of customer engagement in online brand communities (Brodie et al., 2013). In addition, little attention has been given to the consequences of customer engagement in online brand communities. The current research aims to address this gap by developing a customer engagement model based on the Elaboration Likelihood Model (ELM). The current research applies ELM in customer engagement process to expand the understanding of customer behaviour in online brand community. The model explains how different segments of customers are influences to engage in online brand community. In contrast to the existing models, the developed model based on ELM highlights the differences of influence process for high and low-involvement customers. According to the ELM, low-involvement customers are influences via peripheral route while high-involvement customers are influenced via central route.

1.2 Research Question

A lack of an appropriate measure of customer engagement has prevented both marketing scholars and practitioners from developing a clear understanding of the concept in the online brand community and its dimensions. Developing a clear understanding of customer engagement would provide a better understanding and prediction of customer behaviour in the online brand community. Reconceptualising and measuring customer engagement in the online brand community is important since it would shed light on customer behaviour in this complex online environment. Thus, the current research aims to answer the following question:

"How can customer engagement in the online brand community be conceptualised and measured?"

1.3 Research Objectives

This study aims to contribute insights into understanding of customer behaviour in online brand communities. Specifically, the focus is on the measurement of customer engagement (CE) and initial insights into the role of customer engagement within a net of focal nomological online relationships including group norm, information quality, brand community identification and brand identification as the antecedents of customer engagement and the consequent brand loyalty and customer satisfaction. Thus, the current research aims to develop a customer engagement scale as well as a model of customer engagement in online brand communities. The following objectives are developed to facilitate the investigation of the research question:

1. *To critically assess existing conceptualisations of customer engagement and the underlying theoretical foundation of the CE construct.*
2. *To develop a customer engagement model in online brand communities based on the Elaboration Likelihood Model.*
3. *To develop a reliable and valid measurement scale for the customer engagement construct.*
4. *To develop a theoretically grounded definition and understanding of the underlying dimensions of the customer engagement construct.*

Table 1 Research Approach to Address Developed Research Objectives from Research Questions

Gaps in the literature	Objectives	Approach to address the gaps
Lack of a customer engagement process model in online brand community	Proposing a theoretical model based on ELM which explains the customer engagement process in online brand community	In-depth literature review on customer engagement, social influence theories and online customer behaviour
Lack of a reliable and valid customer engagement scale	To develop a reliable and valid measurement scale of customer engagement construct	Two-stage research design including two studies with independent samples and using quantitative analysis process
Lack of conceptualisation of customer engagement construct in online brand community	To develop a theoretically grounded definition and understanding of the underlying dimensions of customer engagement construct	Critical literature review and using quantitative analysis process

1.4 Research Methodology

The current research employed a two-stage research design to fulfil the research objectives. The first stage of the research includes generation of an item pool based on the adopted definition of customer engagement and its dimensions. The items generated in the first stage sample the domain of the customer engagement construct. Two cross-sectional studies were designed in the second stage of the research. The objective of the second stage is to examine the validity (convergent and discriminant validity) and reliability of the scale using quantitative techniques.

Following the literature on the scale development process, the customer engagement scale was developed through three phases. These three phases include two stages of expert item judging and two studies with independent samples. Phase one was concerned with the generation of an item pool and assessment of content validity. Phase two involves one study and it is referred to as the first study in the thesis. The first study used a web-based survey and collected data from 251 completed responses, and employed both Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA). Exploratory factor analysis was used to drop poorly performing items from the initial item pool. Confirmatory factor analysis was performed in the next step to verify the exploratory factor structure. Furthermore, confirmatory factor analysis was utilised to assess the reliability and validity (convergent and discriminant) of the customer engagement construct.

The third phase of the scale development process includes the second study. The second study used a new independent sample of respondents to provide further validation of the scale. The second study was also designed to provide initial validation of the developed model of the

current research. In the second study, the data from 507 completed responses were collected via a self-administered, web-based survey. In both studies, the respondents were recruited via Amazon Mechanical Turk (AMT). The second study concluded that customer engagement is a second-order construct with five first-order constructs. The second study used Structural Equation Modelling (SEM) to test the hypothesised relationships between the customer engagement construct and potential antecedents and consequences. The developed model of customer engagement based on the Elaboration Likelihood Model was tested using quantitative techniques in the second study.

1.5 Research Contributions

Following the research objectives, the current research makes three main contributions into customer behaviour in interactive environments. First, the current research is the first study to develop a reliable and valid scale to measure customer engagement construct in online brand community. The importance of the customer engagement has been highlighted in the extant marketing literature (Brodie et al., 2013; Neff, 2007; Sedly, 2008; Voyles, 2007). The developed scale is used to enhance our understanding of customer behaviour in online brand communities. Second, the current research applies Elaboration Likelihood Model to understand customer engagement process in online brand communities. The important managerial implication of applying ELM is to identify the influential factors for different segments of customers in online brand communities. In addition, the positive relationship between customer engagement and brand loyalty and customer satisfaction is examined in the developed model. Third, the current research develops grounded definition of customer engagement based on the research finding and empirically provides evidence for five dimensions of the construct.

1.6 Preview of Subsequent Chapters

The current research has nine chapters and is structured (Figure 1) as follows:

Chapter Two: following the introductory chapter, Chapter Two addresses the theoretical bases of the current research. The required theoretical bases have been observed in three different research areas: relationship marketing, customer behaviour and social influence studies. This chapter introduces the focus of the current research, which is on these three research areas.

1) With regard to relationship marketing studies, the theoretical definition of customer engagement has been explored and the working definition of the current research has been adopted from this area of research.
2) The concept of online brand community and the studies of customer behaviour in this research context have been explored in the area of customer behaviour studies.
3) The last focus of the current research is on social influence studies in which the related concepts to customer engagement have been explained.

Chapter Three: this chapter undertakes a systematic review of the customer engagement literature. The literature review presented in this chapter comprises three parts: the first part reviews articles published before 2010, the second part contains a review of peer-reviewed articles after 2010, and the third part reviews the most recent peer-reviewed empirical studies from four major electronic databases and specifically three pioneering journals (Information Systems Research, Journal of Business Research, and Decision Support Systems). The limitations of each part are explored. Based on the three-part literature review, this chapter highlights the need for further research. Subsequently, this chapter refines the adopted definition of customer engagement and its dimensions. The definition and its dimensions provide the construct definition as the first step of the scale development process. Finally, the limitations of the only journal article with the same objectives as the current research are explained.

Chapter Four: this chapter aims to develop a conceptual framework for the current research. This framework is developed for two purposes: the nomological validity of the newly developed scale of customer engagement in the online brand community will be assessed by testing the conceptual framework. In addition, the current research suggests using the conceptual framework which is based on the Elaboration Likelihood Model (ELM) as a model of customer engagement in the online brand community. The chapter reviews other models used to study customer behaviour online, and the advantages of the proposed model compared to other models are highlighted. This chapter also presents an overview of the proposed antecedents and consequences of customer engagement based on the developed model. Finally, the explanation of the hypothesised relationships that are included in the model is presented.

Chapter Five: the methodology of the current research is discussed in this chapter. The chapter is concerned with the research design in order to develop a valid and reliable measurement scale for the customer engagement construct. The chapter describes a two-stage research design with three phases with respect to the objectives of the current research. In addition, it explains the

details of the scale development process. Finally, this chapter presents three phases with discussion on the sampling process, questionnaire design process and quantitative data analyses techniques.

Chapter Six: the objective of this chapter is to present the analyses of the first and the second phases of the research design. This chapter presents a discussion on the first phase of the scale development process including generation of initial item pool and expert item judging to assess the content validity of the initial item pool. Then, the second phase of the current research including a study is presented. The analyses performed for the first study, including Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA), are also presented. Purification of the initial item pool, as well as checking of initial validity (discriminant and convergent), are the objectives of the first study and are explained in this chapter.

Chapter Seven: this chapter is concerned with the third phase of the research design. A report of the second study conducted in the third phase is discussed. This chapter describes the performed Exploratory Factor Analysis and Confirmatory Factor Analysis of the second study with a new independent sample in order to provide further refinement of the developed scale. The chapter also explains the empirical analyses of the structural model to test the nomological validity of the scale. The results of the hypothesised relationships are presented in the final section.

Chapter Eight: the findings of the current research with respect to the literature review are compared and contrasted in this chapter. The findings are discussed in two parts: the first part includes the findings regarding the newly developed scale and conceptualisation and measurement of customer engagement, while the second part presents the findings regarding the conceptual framework and the hypothesised relationships included in the CE model.

Chapter Nine: the final chapter of the current research is concerned with the research contributions and limitations as well as suggestions for further research. A discussion on theoretical and managerial contributions is presented. Then, this chapter describes the limitations of the current research and, finally, the thesis concludes by identifying directions for further research.

Figure 1 The Thesis Structure

Research Objectives **Chapters & Content** **Contributions**

Chapter 1 : Setting the Stage

Background of the Study
Research Question
Research Objectives
Research Contributions

Chapter 2 : Research Areas

Customer Behaviour Study
Relatioship Marketing Study
Social Influence Study

Objective One

Chapter 3 : Systematic Literature Review

Systematic Literature Review of Studies Before 2010
Systematic Literature Review of Studies After 2010

Chapter 4 : Theoretical Framework and Hypothesis

The Proposed Model
Conceptualisation of the Constructs in The model
Hypothesis Development

Objective Two

Chapter 5 : Methodology and Research Design

Research Paradigm Consideration
Research Design
Adoption of Measurement Items

Developing reliable and valid CE scale

Chapter 6 : Preliminary Assessment of the Scale

Content Validity Assessment
Exploratory Factor Analysis
Confirmatory factor Analysis

Objective Three

Applying ELM in the context of OBC

Chapter 7 : Final Validation of the Scale and Conceptual Model

Exploratory Factor Analysis
Confirmatory Factor Analysis
Structural Equation Modelling

Objective Four

Conceptualisation of CE

Chapter 8 : Discussion

Discussion of the Findings
Re-conceptualisation of the CE Construct

Chapter 9 : Conclusion

Theoretical, Managerial and Methodological Contributions

Chapter Two

Theoretical Foundations of Customer Engagement: Three Main Research Areas

2.1 Introduction

The previous chapter has introduced the objectives that the current research attempts to address. The four objectives are drawn from the main question posed by the current research to conceptualise and measure the customer engagement construct. The research objectives focus is on the scale development process and validation of customer engagement construct. In order to answer the main question, it is important to introduce the areas of the research in which the concept of customer engagement has been studied.

Chapters Two and Three aim to put the research objectives into perspective by reviewing the prior and related literature. This begins by clarifying the focus of this study. Three research areas are identified as the focus of this study: relationship marketing, online customer behaviour and social influence study, and are brought together to form its structure. The theoretical root of the customer engagement concept can be seen in these three research areas.

The first research area involves the online customer behaviour studies that are presented in Section 2.2.1. This section explains the changes in the study of customer behaviour with the rise of the Internet penetrations. The concepts of community and online community and online brand community are defined in this section. The research setting, which is online brand community, is also presented. A review of the literature including different types of research regarding customer behaviour in the online brand community is discussed at the end of the section.

Section 2.2.2 introduces the second research area, which is relationship marketing. Relationship marketing is a wider area to which customer engagement is linked in this research area. The section also explains why this study examines the concept of customer engagement through this field of research, as well as outlining other similar concepts. Finally, the working definition of the current research is introduced.

Section 2.2.3 presents the third research area, which is social influence studies. Customer engagement has been increasingly explored in these studies. The theory of social influence is explained in this section, and a discussion on the relationship between customer engagement and the other constructs that are examined in social influence study is presented.

2.2 Focus of the Current Research

The focus of the current research is on three important areas: online customer behaviour studies, relationship marketing studies and social influence studies. The area of relationship marketing studies is selected because Brodie et al. (2013) suggest that the theoretical roots of customer engagement lie in the relationship marketing domain. Social influence study is the other important area in which customer engagement has been extensively examined. In the current research, the social influence studies are reviewed to identify antecedents of customer engagement in the online brand community. The other research area relates to the literature on customer behaviour, particularly online customer behaviour. The current research reviews online customer behaviour because the research setting is online brand community. Figure 2 illustrates the three areas underlying the current research whilst following sections explain each area.

Figure 2 The Current Research: The Underlying Research Areas
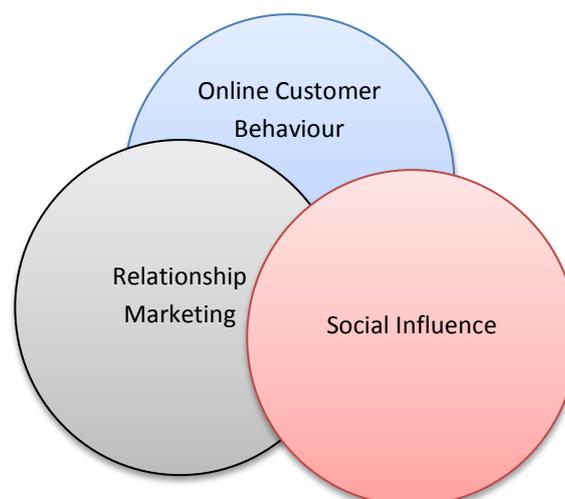
2.2.1 Customer Behaviour Study

On the whole, scholars are in agreement on the definition of customer behaviour, with few differences between them. For example, Hoyer and MacInnis (2007) define customer behaviour as

"*the behaviour that customer displays in searching for, purchasing, using, evaluating, and disposing of products, services, and ideas*" (Hoyer and MacInnis, 2007: 3).

The definition shows that the customer behaviour study includes a wide range of research topics. Customer engagement reflects the nature of the relationship between customer and brand in using an online brand community. The behaviour that a customer displays in using an online brand community as a service is the focus of the current research. Thus, customer behaviour literature is important to this research because it examines the customer engagement concept.

The customer behaviour field is rooted in a marketing strategy that developed in the late 1950s (Schiffman and Kanuk, 2007). This field evolved when marketers discovered that they could earn more benefits by selling more goods if they understood customers' needs and what they would buy (Engel et al., 2005). Thus, the concept of marketing changed from then and firms began to produce goods that customers were able and willing to buy.

The customer behaviour field has emerged from other subjects such as marketing, economy and behavioural science. Furthermore, this field's concepts are borrowed from other scientific disciplines and studies like psychology, anthropology, sociology and economics, in addition to other fields of research – particularly Information Systems (IS), because the advancement of the Internet has contributed to the development and growth of this area (Karimi, 2013). Figure 3 illustrates the emergence of the customer behaviour field from other disciplines.

Figure 3 The Emergence of Customer Behaviour from Other Subjects (adapted from Karimi, 2013)
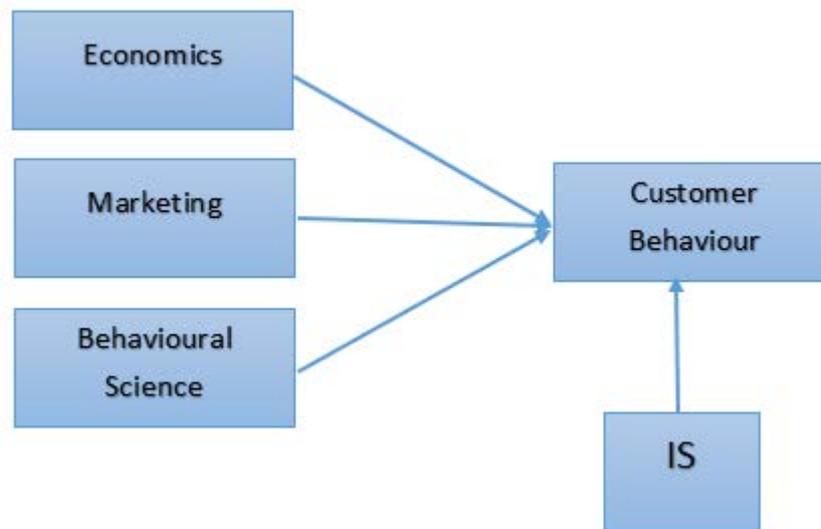
2.2.1.1 Emergence of Online Customer Behaviour

As mentioned in the previous section, customer behaviour studies have changed due to the increasing penetration of the Internet over the past decade. The Internet enables customers to interact with each other as well as companies through the different forms of Internet-mediated environments (De Valck et al., 2009; Hoffman and Novak, 2000; Ray et al., 2014). This new form of communication is challenging for firms but they have to interact with customers in this multi-channel environment as their success depends on their understanding of customer behaviour in the online marketplace. The main challenges of e-business are to address customers' needs and make the most of this environment to satisfy customers' needs better than their competitors. On the other side, communication is important for customers because it enables them to communicate with other individuals who share the same interests, and this has led to the formation of online communities (Ray et al., 2014). Online communities have been developed where members not only exchange information about their particular interests but they may also develop friendships among themselves (Bateman et al., 2011; De Valck et al., 2009; Ray et al., 2014). A large group of studies have selected the online communities as the research setting through which to explore customer behaviour and the nature of communication between customers and online community. However, although there have been extensive efforts to study online communities, due to recent technological innovations, new investigations are needed (Baldus et al., 2015). The next section introduces the pioneering articles addressing the role of

online communities in shaping customer behaviour. The required theoretical bases of the current research including online community and online brand community have been explored in this research area. In addition, the important research streams conducted on online communities are introduced.

2.2.1.2 Customer Engagement: Online Customer Behaviour Perspective

The current research reviews the online customer behaviour studies to explain the basic concepts of community, online community and online brand community. Table 2 summarises the studies of customer behaviour in the online community.

Table 2 Studies of Customer Behaviour in Online Community

Author	Year	The Focus of the Research	Type of Research	Online Context
Muniz and O'Guinn	(2001)	Identifying three core markers of online community	Empirical: qualitative	Online community
De Valck et al.	(2009)	Influence of online community on customer decision-making process	Empirical: quantitative	Online community
Sawhney et al.	(2005)	The important role of Internet for engaging customers in multiple ways for different purposes	Empirical: qualitative	Online environment
Brown et al.	(2007)	The role of Word of Mouth in online communities	Empirical: qualitative	Online community
Wirtz et al.	(2013)	The development of a framework on customer engagement in online brand community	Conceptual	Online brand community
Carlson et al.	(2008)	The role of brand community to influence strength of the brand and community identification	Empirical: quantitative	Brand community
Hennig-Thurau et al.	(2004)	Development of typology for motives of customer online articulation	Empirical: quantitative	Web-based customer opinion platform
Zagila	(2013)	Investigation of the Embedded Brand Community	Empirical: qualitative	Online brand community on Social Networking Sites
Gummerus et al.	(2012)	Develop a customer engagement in Facebook brand community	Empirical: quantitative	Facebook brand community
Alder and Kwon	(2002)	Study of social capital in online environment	Conceptual	Online environment
McAlexander et al.	(1998)	Explore the different crucial relationships in brand community	Empirical: quantitative	Brand community
Chen et al.	(2010)	Explore the use of social comparison to increase contributions to an online community	Experiment	Online community
Chiu et al.	(2011)	Investigation of the motivations behind people's intentions to continue knowledge sharing	Empirical: quantitative	Open professional online community
Wasko and Faraj	(2005)	Identifying individual motivations and social capital that influence knowledge contribution in electronic networks	Empirical: quantitative	Online community

These studies have been placed in the same group as they are the more cited studies in the recent customer engagement articles, and they have been referenced in order to provide the theoretical foundations regarding online community and online brand community. The current research has grouped these studies together as customer behaviour studies to explain the research's theoretical basis.

2.2.1.3 Community: Theoretical Basis

It is difficult to find an acceptable definition for the term 'community' in sociology (the study of groups). The reason for this is clearly stated by Scott and Marshall (2012: 111):

"*the ambiguities of the term community make any wholly coherent sociological definition of communities, and hence the scope and limits for their empirical study, impossible to achieve*".

Through reviewing the sociology literature, it is apparent that two main approaches are used by scholars to convey their meaning of 'community' (Preece and Maloney-Krichmar, 2005). The first approach is to explain the context in which the term is used and then define the term based on the context. For example, use of the term in advertising can be seen in the following sentence: "use your community-based grocery store. We create jobs for local people" (Preece and Maloney-Krichmar, 2005). The other approach, which helps to reduce confusion and ambiguity, is to reveal the characteristics or components of 'community'. The latter approach is used in the current research to define the term, as explained below.

The term 'community' is given as a base of sociology studies. There are three core markers of community (Muniz and O'Guinn, 2001):

- **Consciousness of kind:** this core marker, which was proposed by Gusfield (1978), is considered as the most important factor of community. The consciousness of kind was defined by Muniz and O'Guinn (2001: 413) as "the intrinsic connection that members feel toward one another, and the collective sense of difference from others not in the community". In addition, Weber (1978) suggests the consciousness of kind as "a shared knowing of belonging".
- **Shared rituals and traditions:** the existence of shared rituals and traditions is indicated as the second element of community. Traditions are referred to as "the sets of social practices which seek to celebrate and inculcate certain behavioural norms and values", whereas rituals are "conventions that set up visible public definitions and social solidarity" (Muniz and O'Guinn, 2001: 413).
- **Sense of moral responsibility:** the third component of community is a sense of moral responsibility. A felt sense of obligation to all members of community and to the

community as whole is known as a sense of moral responsibility. Muniz and O'Guinn (2001) believe that the sense of moral responsibility cause collective action when a threat occurs to a community.

2.2.1.4 Online Community

Virtual community, online community and computer-mediated community are terms that are used to refer the same concept. The technology advancements have facilitated the development of communities in online environment. The penetration of the Internet has enabled geographically dispersed individuals with shared interests to gather online in the form of community members. Kozinets (1999) stated that the three mentioned markers of community can be seen in online community and De Valck et al. (2009) define it as:

 "affiliative groups whose online interactions are based upon a shared enthusiasm for, and knowledge of, a specific consumption activity or related group of activities" (De Valck et al., 2009: 185)

Online communities have initiated radical transformations in social interactions. Particularly, online communities have played a key role to change the perception about customers as being passive audiences to proactive co-creators. Recent studies about online communities provide some support that online communities hold great promise as management tool. The study of online community by Nambisan and Baron (2009) show the role of online communities in value co-creation activities and particularly they offer valuable insights into product innovations. The other study by Bagozzi and Dholakia (2006) examine the role of online communities to facilitate enduring and committed bond with customers. In addition, Prahalad and Ramaswamy (2004) as well as the study of Wiertz and Ruyter (2007) provide evidences to support the role of online communities to reduce the costs of customer service by enabling peer-to-peer problem solving. Both practitioners and scholars have taken great interest in this powerful management tool and understanding of the customer behaviour in the context of online communities has become important. The following section presents the definition of online brand community as a sub-type of online community and then two main research streams in online communities will be described in Section 2.2.1.6.

2.2.1.5 Online Brand Community

An Online Brand Community (OBC) is a sub-type of online communities in which customers of a specific brand gather together to exchange their information and knowledge about the brand. De Valck et al. (2009: 185) define OBC as "a specialized, non-geographically bound, online community, based on social communications and relationships among a brand's customers". This definition is suggested based on the definition of brand community by Muniz and O'Guinn (2001: 412): "a specialized, non-geographically bound community, based on a structured set of relationships among admires of a brand". Obviously, the only difference between these two definitions is related to the term 'online community'. In addition, Wirtz et al. (2013) identify three key dimensions that shape an online brand community:

- Brand orientation: the focus of an OBC is centred on the brand itself (such as Starbucks), a general shared interest (coffee lovers) or even both.
- Internet-use: the Internet enables interaction between customers.
- Funding and governance: OBC is managed and funded in a range from completely by the brand to completely by the community of enthusiasts.

Embedded Online Brand Community

The advancements of the Internet and new technologies enable customers of a specific brand to gather in an online environment. However, customers and companies are enabled to create brand communities through social network sites (SNS), which are called embedded brand communities. For instance, as one of the most popular online social networks, Facebook enables companies to create pages that people can easily join by clicking on the 'Like' button. According to Zagila (2013: 220), in creating such fan pages, companies aim:

"to broadcast great information in an official, public manner to people who choose to connect with them"

From the customers' perspective, they are enabled to communicate with others who like that page and obtain information and share their experiences of the specific brand with group members. Zagila (2013: 220) suggests that "social networks might present another platform on which brand aficionados meet and interact, namely in embedded brand communities". However, this netnography study of two embedded communities of global brands (among 100 global brand

based on Interbrand best global brand rating 2009) by Zagila (2013) provides evidence that brand communities on social network sites present all the characteristics of brand community (consciousness of kind, rituals and traditions, sense of moral responsibility). Similarly, an earlier study, by Gummerus et al. (2012), regarding the brand communities on Facebook produced the same finding: that these sub-groups have the same characteristics of brand communities. Although some studies have explored the characteristics of the embedded communities, studies focusing on understanding the customer behaviour in such communities are limited in number.

2.2.1.6 Customer Behaviour in Online Communities

The emergence of the Internet has created a new communication medium that enables people with shared interests to gather online. The advancements in Internet technology have enabled a geographically dispersed, many-to-many communication model that connects people all over the world. The Internet not only connects individuals, but also companies, and thus enables customers to communicate with both other customers and companies via this medium.

Customers are considerably more active in interactive processes such as multiple feedback loops and real-time communication through a virtual environment (Brodie et al., 2013). Chat rooms, newsgroups, electronic discussion forums, bulletin boards, list servers, email, personal web pages, social networks and blogs are examples of virtual interaction and communication tools (De Valck et al., 2009). A new, interactive form of customer experience has been enabled by these tools, which facilitate customer interaction with a specific brand (Brodie et al., 2013).

Two main streams of research have been conducted on online communities to examine customer behaviour. The first stream of research is in response to managers' need to identify motivations and antecedents of participation in online communities. The objective of this group of studies is to find the factors that encourage customers to participate in and continue to use online communities (Bagozzi and Dholakia, 2002; Dholakia et al., 2004; Hennig-Thurau et al., 2004; Ray et al., 2014; Tsai and Pai, 2014; Wiertz and Ruyter, 2007). This group of studies provides important insights to identify the determinants of customer participation in online communities. Dholakia et al. (2004) identify purposive value (the value derived from accomplishing some pre-determined instrumental purpose including giving or receiving information), self-discovery (understanding salient aspects of one's self through social interactions), maintaining interpersonal interconnectivity (the social benefits derived from

establishing and maintaining contact with other people), social enhancement (the value that a participant derives from gaining the acceptance and approval of other members) and entertainment value (the value derived from fun and relaxation through playing or otherwise interacting with others). Hennig-Thurau et al. (2004) add economic incentives to these factors as an important motivation for using online communities. In addition, Wiertz and Ruyter (2007) suggest that social capital is the main driver for contributing to an online community and investigate three components of social capital (reciprocity, commitment to community and commitment to host firm) as motivation for participation in online communities. Alder and Kwon (2002: 351) define social capital as "an intangible resource of support that emanates from membership of a social group which can be mobilised in times of need".

The second stream of research provides insights into the functioning of online communities as reference groups and word-of-mouth networks (Brown et al., 2007; Chatterjee, 2001; Cheung and Lee, 2010; Chevalier and Mayzlin, 2006; De Valck et al., 2009; Kozinets et al., 2010) through investigating the influence of online communities on the different stages of customer decision-making. This group of studies provides some support that existing theories about word of mouth in the traditional setting can also be applied to the online community context (Brown et al., 2007). De Valck et al. (2009) explore the importance of the online community as a reference group and its influence on four stages of customer decision-making (need for recognition, search for information, pre-purchase evaluation and post-purchase evaluation). Chatterjee (2001) and Chevallier and Mayzlin (2003) conducted experiments on the influence of negative online reviews. These studies show that customers are more likely to accept negative online word-of-mouth recommendations where there is a lack of information from the company about the product. Cheung and Lee's (2010) study of e-WOM indicates that argument quality and source credibility are two main factors that influence customers to accept the information generated in an online community. Kozinets et al. (2010) introduce the concept of word of mouth marketing in online communities and investigate the role of online community in amplifying marketing message. Google has advocated the phrase Zero Moment of Truth (ZMOT), which refers to their research that identified the important stage of customer research during their decision-making process (Lecinksi, 2012).

Apart from these two research streams, a new body of research has emerged to explore the nature of customer behaviour in the online environment, particularly in the online brand community. The first attempt in this research stream is seen in Brodie et al.'s (2013) study to

reveal the dynamics of customer/brand relationships in online brand communities. The term 'engagement' has been extensively used by this research stream (for example, Brodie et al. (2013) and Vivek et al. (2012)). The objective of this research stream is the conceptualisation of customer engagement in the online brand community. The current research, which aims to explore the concept of customer engagement in the online brand community, is placed in this new research stream. As this body of research highlights the nature of customer/brand relationships, the current research reviews the relevant relationship marketing studies. Thus, the next section discusses relationship marketing studies as the second focus of the current research.

2.2.2 Relationship Marketing Studies

The previous section introduced customer behaviour as the first research areas. The concepts of online community and online brand community were defined according to the studies in this area. Then the two main research groups in the context of online communities were described. Finally, the previous section ended with an introduction to the new research stream with a focus on understanding the nature of customer/brand relationships in online brand communities.

In this section, relationship marketing studies, as the second research area, is introduced. This section explains how the theoretical roots of customer engagement are placed in the domain of relationship marketing. The relationship marketing studies are reviewed in order to adopt an appropriate working definition for the current research.

2.2.2.1 Relationship Marketing Research: A Marketing Paradigm

Marketers and researchers have turned their attention to an alternative perspective in marketing circles over the last 15 years. This alternative approach is relationship marketing and it is defined by Godson (2009: 4) as "the concentration of marketing efforts and resources on developing and maintaining long-term, close relationship with customers and other stakeholders". According to the definition, relationship marketing reflected the emerging concept of customers' needs and caused a major shift in thinking within the marketing research and practices (Godson, 2009).

It could be considered that relationship marketing is limited to relationships with customers, which are collectively called Customer Relationship Management (CRM) (Harwood, Broderick, & Garry, 2008). However, companies must manage all their relationships, both internal and

external, in order to meet customers' needs effectively as well as to remain competitive in the market. In fact, companies rely on relationship marketing tactics in order to increase customer support (Ashley et al., 2011). Considering relationship marketing as CRM activities reflects the simple linear view, while looking at the customer relationship as a long-term relational exchange represents a constellation of relationships, as illustrated in Figure 4 (Vincent and Webster, 2013). Indeed, the scope of relationship marketing is very broad and does include a constellation of relationships. Gummeson (1996) emphasises on the importance of other types of relationships and highlight the important role of other internal and external relationships in success of customer relationships. In addition, Buttle (2009) defines relationship marketing as integration of internal functions and external networks. As a result, the domain of relationship marketing is much broader than mere CRM, and it covers a wide range of areas including supply chain relationships, and customer value management, retention and loyalty (Godson, 2009). Therefore, Morgan and Hunt (1994: 22) state that relationship marketing refers to "all marketing activities directed toward establishing, developing, and maintaining successful relational exchange".

Figure 4 Linear and Constellation of Relationships (adapted from Godson, 2007)

Simple linear relationship between supplier and customer

A constellation of relationships
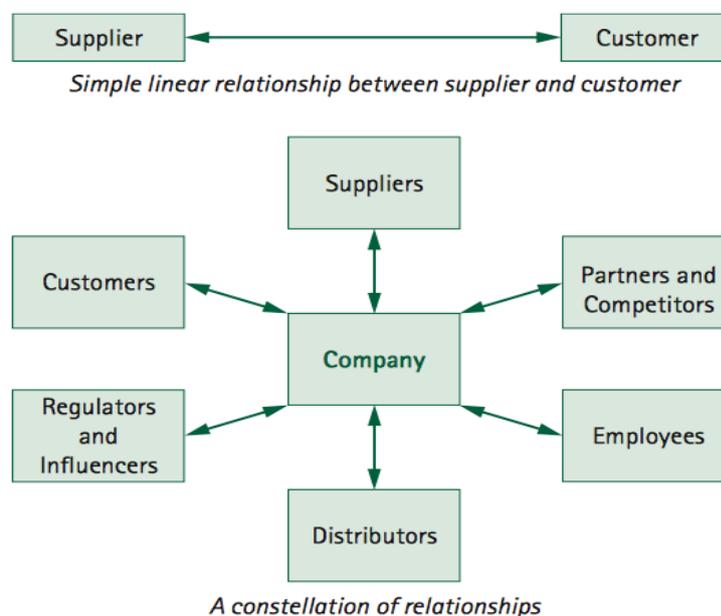
2.2.2.2 Customer – Company Relationship

In line with the objectives of the current research, this section focuses on a specific type of relationship which explore the relationship between customer and company. As illustrated in Figure 4, there is a two-way communication between company and customers. From the company's point of view, studies suggest that customer loyalty as one of the main consequences of this relationship (Palmatier et al. 2006). Peel et al. (2002) highlight the importance of customer relationship marketing in: first, understanding the nature of this relationship and second, managing this relationship appropriately. Buttle (2015) clarifies the management of customer relationships as identifying, acquiring, satisfying and retaining profitable customers and the author mentions two key benefits of customer relationship marketing for companies: reduced marketing cost and better customer insight. Apart from these two important benefits, Author believes that better customer insight leads to increase in customer satisfaction and brand loyalty and consequently business performance.

From customers' point of view, studies suggest that engaging in relationship with company has a positive relationship with the perceived greater relational benefits (Kinard and Capella, 2006). Apart from reducing perceived risks, Buttle (2015) highlights five motives to explain why customers are interested in building relationship with companies: Recognition, personalisation, power, status and affiliation. These motives respectively refer to customers feeling of being valued, being understood about their specific expectations and needs, feeling of power as a result of relationship, enhancing customer's status and meeting customer's social needs.

As mentioned, retaining profitable customers is an important part of the management of customer relationships. Moreover, the orientation of relationship marketing is also to customer orientation (Payne et al., 1995). Customer retention is discussed in the following section and then customer engagement as one of the positive strategies in order to improve customer retention is presented.

2.2.2.3 Customer Retention

Customer retention is defined as maintaining long-term relationships with customers (Buttle, 2015). The important purpose of the CRM strategies is to improve customer retention as studies suggest that customer retention positively influence sales and profit (Buttle, 2015). There are two types of strategies for customer retention: positive strategies and negative strategies.

Positive strategies refer to encourage customers to remain in relationship by rewarding them and locking their exit from relationship by penalising them is referred to negative strategies. Imposing high switching cost on customers is one example of negative strategies and building customer engagement is one example of positive strategies. Regarding positive strategies, there are several studies that suggest customer satisfaction is not a strong reason for maintaining in a relationship with organisation or brand (Buttle, 2015; Homburg et al., 2005). Buttle (2015) state that the concept of customer engagement introduced in organisational behaviour and psychology and then migrated to customer relationship studies. In the following section, the concept of customer engagement in the relationship marketing domain is discussed.

2.2.2.4 Relationship Marketing and Customer Engagement

Vivek et al. (2012) suggest that the theoretical roots of the customer engagement concept lie in the "expended relationship marketing domain". Additionally, Ashley et al. (2011) suggest the theory of relationship marketing as the broader conceptual framework in order to study customer engagement. Through the lens of this theory, customer engagement is recognised as customer behaviour which is centred on the customer's interactive experiences taking place in complex and co-creative environments.

From the marketing strategy point of view, the customer engagement concept is related to relationship marketing. According to Fornell (1992), there are two different types of marketing strategies: offensive and defensive. Offensive strategies involve those activities with the aims of attracting additional customers, increasing purchase frequency and encouraging brand switching, while the aim of defensive strategies is to reduce customer exit. Researchers suggest that the scope of relationship marketing includes both of these marketing strategies (Vivek et al., 2012; Morgan & Hunt, 1994). Based on this, the focus of firms in this broadened domain of relationship marketing is on the current and future customers as well as the customer community. Thus, the current research is similar to that of Vargo (2009), who posits customer engagement as the central concept within relationship marketing.

2.2.2.5 Customer Engagement Studies: Relationship Marketing Perspective

As explained in the previous section, one of the research areas that can be seen as focusing on a customer engagement concept is relationship marketing studies. Thus, one group of the reviewed literature belongs to the segment of relationship marketing studies. This section

explains the nature of the customer engagement studies that belong to this research area. Table 3 summarises the reviewed literature from a relationship marketing perspective.

Table 3 Summary of Customer Engagement Studies from a Relationship Marketing Perspective

Author	Year	Concept	Construct definition	Research Type	Research Context
Brodie et al.	(2013)	Customer engagement	Customer engagement in a virtual brand community involves specific interactive experiences between consumers and the brand, and/or other members of the community. Consumer engagement is a context-dependent, psychological state characterised by fluctuating intensity levels that occur within dynamic, iterative engagement processes	Empirical: qualitative	Online brand community
Hollebeek	(2011b)	Customer brand engagement	The level of an individual customer's motivational, brand-related and context-dependent state of mind characterised by specific levels of cognitive, emotional and behavioural activity in brand interactions	Conceptual	Brand community
Kuo and Feng	(2013)	Community engagement	The positive perceptions and feedback of members to their participation in activities held by the community	Empirical: quantitative	Online brand community
Mollen and Wilson	(2010)	Online engagement	A cognitive and affective commitment to an active relationship with the brand as personified by the website or other computer-mediated entities designed to communicate brand value	Conceptual	Online Environment
Van Doorn et al.	(2010)	Customer engagement behaviour	Customers' behavioural manifestations that have a brand or firm focus, beyond purchase, resulting from motivational factors	Conceptual	Offline setting
Sprott et al.	(2009)	Brand engagement	Individual difference representing customers' propensity to include important brands as part of how they view themselves	Empirical: quantitative	Online community
Vivek et al.	(2012)	Customer engagement	The intensity of an individual's participation in and connection with an organisation's offerings or organisational activities, which either the customer or the organisation initiate	Conceptual	Offline setting
Calder et al.	(2009)	Online engagement	A second-order construct manifested in various types of first-order 'experience' constructs, with experience being defined as a customer's beliefs about how a site fits into her/his life	Empirical: quantitative	Online website
Avnet and Higgins	(2006)	Engagement	When people pursue a goal in a manner that sustains their orientation, they experience their engagement in that goal pursuit more strongly than they do when pursuing the goal in a way that is at odds with or disrupts their orientation; they experience a stronger evaluative reaction to the activity	Conceptual	Offline setting

It is observed that there are a number of engagement-related concepts within relationship marketing studies including: community engagement, brand engagement, customer engagement. In addition, engagement has been considered as an interactive experience with an object in the reviewed literature of this research area. The second observation is related to the similarity between customer engagement, brand engagement and consumer engagement although they have been differently labelled. These different concepts have a similar conceptual scope. As illustrated in Table 3, this research area mainly includes the studies that attempt to define customer engagement in a specific context. The objective of these studies is to conceptualise the customer engagement concept and distinguish it from other related concepts including 'involvement', 'interaction' and 'participation'. The other important observation to be made about these studies is that both types of research, qualitative and conceptual, have concluded that customer engagement is a multi-dimensional construct.

The important limitation of the study of customer engagement in this research area is a lack of quantitative study. As is mentioned in most studies in this area, further research needs to incorporate studies examining larger sample of customers to lead to more generalisable findings. Particularly, there is a lack of a reliable and valid scale for the customer engagement construct, as outlined in Chapter One.

The current research reviewed this group of studies in order to adopt a working definition. Due to the quantitative nature of the current research, it is necessary to adopt an appropriate definition in order to develop the customer engagement scale. The following sections present a discussion on customer engagement and similar concepts, and then the working definition used in this study.

2.2.2.6 Customer Engagement: Working Definition

As mentioned in the previous section, the current research emphasises the relationship marketing studies in order to adopt a working definition. As shown in Table 3, there are different definitions regarding this engagement but relatively few authors have defined customer engagement in the academic marketing literature and particularly in the relationship marketing literature to date in order to develop a working definition for customer engagement in the online brand community. In the following section, the different uses of this notion are compared and then the working definition used in the current research is presented.

2.2.2.7 Customer Engagement in the Online Community

The concept of customer/brand relationship has become more complicated with the creation of new platforms such as TripAdvisor, Twitter, Facebook, blogs and video-sharing platforms such as YouTube and Vimeo that facilitate this relationship via multiple platforms and multiple devices such as smartphones and desktop computers (Brodie et al., 2013; Hollebeek et al., 2014). The changes in the nature of the relationship between customer and brand can be observed in the terms that have been used to describe it. 'Participation', 'Interaction', 'Involvement' and 'Engagement' are the different concepts that have been used in the last decade to represent the nature of customer behaviour in the online environment. It is important to explain the difference between these concepts to understand the reason behind the selection of customer engagement for the current research.

The growth of the Internet uses as a communications medium enabled geographically dispersed individuals to gather online and, in this regard, Hoffman and Novak (2000) introduced many-to-many communication as an important Internet capability. De Valck et al. (2009) emphasise the Internet's capability to act as a medium that enables customers to access online content to communicate with companies. When discussing the introduction of online communities, the concepts of participation and interaction are the most-used ones. Dholakia et al. (2004) define 'participation' in a virtual community as a product of the frequency and duration of community visits and this is similar to the definition of interaction in the studies of Hollebeek (2011a) and Kuo and Feng (2013). Both concepts emphasise the behavioural elements of the customers in online communities. Hollebeek (2011b) states that 'engagement' encompasses the levels of cognitive and emotional activity rather than mere behavioural activity in a brand's community. Thus, Hollebeek (2011b) defines 'customer brand engagement' as

"the level of a customer's motivational, brand-related and context-dependent state of mind characterised by specific levels of cognitive, emotional and behavioural activity in brand interactions" (Hollebeek, 2011: 24).

In addition, Thomson et al. (2005: 271) define involvement as "a state of mental readiness that typically influences the allocation of cognitive resources for a consumption object, object, or decision". The difference between 'involvement' and 'engagement' is highlighted in Mollen and Wilson's (2010) study. They point out that 'involvement' is a component of telepresence, which

is merely a synonym for focused attention. They suggest that engagement requires more than the exercise of cognition. They believe that there is an important distinction between engagement and involvement, and suggest that 'engagement' involves instrumental value and also the individual's perceived experiential value, which is obtained from interaction with a specific brand. Consequently, they define customer brand engagement as:

"*a cognitive and affective commitment to an active relationship with the brand as personified by the website or other computer-mediated entities design to communicate brand value*" (Mollen and Wilson, 2010: 152).

The current research focus is on the customer engagement concept in the context of online brand community. While the majority of studies attempt to define customer engagement and distinguish between the concept and other discussed concepts, they have failed to conceptualise customer engagement in the online brand community. Regardless of the lack of conceptualisation of customer engagement in the online brand community in the relationship marketing, the literature provides a foundation on which to base the current empirical research. In the following section, the adopted definition of customer engagement for the current research is presented.

A Working Definition

There is limited literature in the relationship marketing studies that address customer engagement in online brand community. The study by Brodie et al. (2013) that explicitly addresses the concept of customer engagement in online brand community was adopted to provide guidance for the development of the construct scale. It defines customer engagement in online brand community as follows:

"*Customer engagement in a virtual brand community involves specific interactive experiences between consumers and the brand, and/or other members of the community. Consumer engagement is a context dependent, psychological state characterised by fluctuating intensity levels that occur within dynamic, iterative engagement processes*" (Brodie, 2013: 108).

There are three main reasons to adopt this working definition. Firstly, the definition matches the definitions of engagement-related concepts by Van Doorn et al. (2010), Hollebeek (2011b), and Mollen and Wilson (2010). The definition goes beyond a mere behavioural aspect; Brodie et al. (2013) explain that customer engagement includes cognitive and emotional aspects as well. Secondly, the definition investigates customer engagement in the online brand community, which is directly related to the current research setting. The other engagement-related concepts

have been defined in relation to customer behaviour with website (Mollen and Wilson, 2010), offline brand community (Algesheimer et al., 2005) and the brand itself (Hollebeek, 2011b). And, importantly, as the definition has been developed based on an empirical study, it provides a good source from which to develop the items for the construct measurement. In fact, the current research responds to Brodie et al.'s (2013) exploratory study regarding the need to undertake further empirical research into the online brand community, and specifically the need for further research to develop a reliable and valid customer engagement scale in this emerging area.

2.2.3 Social Influence Study

The third area of focus in the current research is social influence studies, in order to have a better understanding of customer behaviour in the online brand community. Researchers have employed different theories to examine customer behaviour in this community such as life cycle models (Alon et al., 2005), motivational theories (Bagozzi and Dholakia, 2002) and social network analysis (Wellman and Gulia, 1999). These theories have been used to examine the factors influencing the behaviour of online community users. As Dholakia et al. (2014: 242) suggest, "a common theme underlying many of these studies is to better understand the nature and role of social influence exerted by the community on its members". Thus, the literature in which social influence is examined needs to be focused on as an important source of studying customer behaviour in the online brand community. Particularly, it uses the lens of social influence theory to expand the understanding of the factors that influence customer engagement in the online brand community. The current research has focused on the social influence studies to identify the antecedents of customer engagement in the online brand community that are used in the proposed model (Chapter Four).

2.2.3.1 Customer Engagement: Social Influence Perspective

Social influence study is the third research area that needs to be explored. Customer engagement has been an important concept for researchers examining social influence, particularly in the online environment. Table 4 below summarises the social influence studies in which customer engagement has been examined.

Table 4 Customer Engagement Studies from a Social Influence Perspective

Author	Year	Social Influence Variables Tested	Research Setting	Research Type
Dholakia et al.	(2004)	Internalisation, Identification, Compliance	Online community	Empirical: quantitative
Dholakia and Bagozzi	(2006)	Internalisation, Identification,	Online community	Empirical: quantitative
Zhou	(2012)	Internalisation, Identification, Compliance	Online community	Empirical: quantitative
Shen et al.	(2010)	Internalisation, Identification,	Instant- messaging	Empirical: quantitative
Algesheimer et al.	(2005)	Normative social influence	Brand community	Empirical: quantitative
De-sheng and Guang-ya	(2011)	Internalisation, Identification, Compliance	Offline setting	Empirical: quantitative
Sukumaran et al.	(2011)	Normative social influence	News website	Empirical: quantitative
Stibe et al.	(2013)	Normative social influence	Online environment	Empirical: quantitative
Castle et al.	(2014)	Internalisation, Identification, Compliance	Online community	Empirical: qualitative

2.2.3.2 Social Influence as a Discipline

Social influence is a well-developed discipline which was proposed for the first time by Kelman (1974). Kelman (1974) suggested the social influence theory in order to explain how individuals' attitudes are formed in the context of a group. This theory has been developed and applied in social psychology studies (how a person operates in a group). However, with the increase of Internet penetration, other scientific disciplines such as IS which examine the use of technology have contributed to its development.

After Kelman (1974) had suggested the theory of Social Influence, Davis et al. (1989) highlighted its important role in information technology acceptance. According to this theory, there are three different processes through which an attitude or behaviour is formed or changed. These three processes are: identification, compliance and internalisation. Identification occurs when a person is believed to make a decision in order to maintain a satisfying relationship with another person or group. There are two different types of identification in the context of the online brand community: identification with a brand and identification with a community. According to Carlson et al. (2008: 286), identification refers to:

"the degree of overlap between individuals' self-schema and the schema they hold for another target object, which can be brand or community".

Kelman (1974) explains that compliance occurs to gain reward or to avoid punishment within a group. Algesheimer et al. (2005: 21) conceptualise compliance in brand community and define it as "the customers' perceptions of the brand community's extrinsic demands on a person to interact and cooperate within the community". Finally, a person's attitude is changed through the internalisation process when an individual's goals and values are similar to the goals and values of other members of the group. These three group-level influences are the important determinants of customer engagement in the online community that have been examined in the social influence research area.

The pioneering articles that examine the social influence of brand community have found a significant relationship between internalisation and identification with participation in the online community, while there is no such strong evidence for compliance (Bagozzi and Dholakia, 2002; Dholakia et al., 2004). Furthermore, the recent studies that explore social influence in online brand communities have suggested the same findings (Zhou, 2011). It can be explained that members of virtual communities have joined voluntarily and they are able to leave very easily. Thus, as Dholakia et al. (2004) also predict, "they may not feel the need to comply with others' expectation". However, Dholakia et al.'s (2004) study does not include compliance influence and the two salient social influences (identification and internalisation) are examined regarding customer engagement behaviour in the online community.

Different studies explore the social influence variables as drivers of customer participation in online communities (Dholakia et al., 2004; Zhou, 2011), brand community (Algesheimer et al., 2005) and instant messaging (Shen et al., 2011). The current research extends the use of social influence study by examining this theory in the online brand community context.

2.3 Summary

This chapter has presented the three areas of research focus: online customer behaviour, relationship marketing and social influence studies. The current research has focused on online customer behaviour studies to define online community and online brand community. Furthermore, the two identified research streams regarding customer behaviour in the online community have been explained. The focus was on relationship marketing studies in order to adopt an appropriate working definition for the current research. The various concepts that have been used to specify the brand/customer relationship have been explained and the working definition has been presented. The third research focus presented in this chapter is social influence study. The current research has focused on this area to identify the potential antecedents of customer engagement in the online brand community. However, these three research areas have been reviewed to provide the basis for the current research. The next chapter reviews the customer engagement literature.

Chapter Three

Review of Customer Engagement Literature

3.1 Introduction

Chapter Two has provided an overview of the three areas of the current research: customer behaviour studies, relationship marketing studies and social influence studies. The working definition of customer engagement was adopted from relationship marketing studies. The definitions of the terms online communities and online brand communities were found in customer behaviour studies. The current research focuses on social influence study in order to examine the relationship between customer engagement and some potential antecedents.

This chapter undertakes a systematic literature review of customer engagement studies. Specifically, the chapter aims to address the first research objective: "***To critically assess existing conceptualisations of customer engagement and the underlying theoretical foundation of the CE construct".*** Addressing the first research objective provides the foundation for subsequent chapters where the other three research objectives will be addressed. Chapter Four addresses the second research objective: "***To develop a customer engagement model in online brand communities based on the Elaboration Likelihood Model".*** Chapters Six and Seven address the third research objective: "***To develop a reliable and valid measurement scale of the customer engagement construct".*** And, finally, according to the findings presented in Chapters Six and Seven, Chapter Eight addresses the fourth research objective: ***To develop a theoretically grounded definition and understanding of the underlying dimensions of the customer engagement construct".***

This chapter is organised into five main sections. The first section describes how the customer engagement literature review is undertaken. Next, the two main streams of research regarding customer engagement are explained and the relevant literature of each stream is reviewed. This is followed by a description of the limitations of each stream that highlights the importance of the current research. Third, the most recently published articles are reviewed that specifically address the concept of customer engagement in the online brand community which is similar to the area of the current research. Fourth, the proposed dimensions of the customer engagement

construct which is based on the study by Brodie et al. (2013) are described. Finally, the latest published study, by Baldus et al. (2015), that is similar to the main objective of the current research is reviewed.

3.2 Literature Review of Customer Engagement Studies

There are two main approaches when undertaking a literature review: the traditional or narrative review and the systematic literature review (Hambrick, 2007). The traditional narrative review is defined as:

"The process of synthesising primary studies and exploring heterogeneity descriptively, rather than statistically" (Petticrew and Roberts, 2006: 19)

The traditional review has been criticised for being highly subjective and not being balanced in the selection of the prior studies to review. The introduction of a quantitative objective analysis of the previous studies has attempted to improve the quality of the review process; this is known as the systematic literature review (Acedo and Casillas, 2005). The objective of the systematic review is to minimise bias through searches of all relevant prior studies by adopting a "replicable, scientific and transparent process" (Tranfield et al., 2003). It is argued that adopting only a qualitative, subjective literature review cannot adequately identify the pioneering articles and the key authors in a specific discipline (Backhaus et al., 2011), while a quantitative, objective literature review can reveal how the dynamic knowledge is generated (Acedo and Casillas, 2005; Backhaus et al., 2011; Hambrick, 2007).

The current research adopted the systematic literature review and followed the literature review steps suggested by Tranfield et al. (2003):

1. Framing questions for a review

The first step before beginning the review is to develop a clear and structured question to address the research objectives. Tranfield et al. (2003) highlight the importance of a definitive research question in conducting systematic literature review. It is suggested as a critical step as following steps are based on the research question. As mentioned in Section 1.2, the following research question was developed: *"How can customer engagement in the online brand community be conceptualised and measured?"*

According to the research question, four relevant concepts including customer engagement were identified. the terms 'customer participation', 'community participation', 'customer engagement' and 'community engagement' were listed. The title, abstract or keywords of journal articles were searched for these search strings.

2. Identifying relevant publications

The second step is to search for the relevant works based on the four identified key terms. Khan et al. (2003) suggest that the search need to be extensive and the identified key terms need to be searched in multiple resources of studies. Three major electronic databases were selected to undertake this search: Business Source Premier, Web of Science and Science Direct. These three resources cover a wide range of journals. A condition was imposed that the search should be limited to peer-reviewed articles written in English. 607 articles were revealed from the initial search. 271 articles were found in more than one resources and therefore the repeated articles were removed.

3. Assessing study quality

The articles from the second step could met the minimum acceptable level. The strict criteria were used in the third step to make sure that the review would be conducted on the best quality evidence. In the third step, a further condition was imposed that only articles with a focus on customer engagement or customer participation as a linkage between customer and community, either online or offline, would be included for further analyses. And, finally, the last condition was only imposed on the articles published after 2010. According to the last imposed condition, articles that adopted the measurement of customer engagement based on the pioneering articles published before 2010 were excluded from the review. 42 articles that met the predetermined inclusion criteria resulted from the third step.

4. Summarising the evidence

Following systematic literature review, Tranfield et al. (2003) highlight the importance of employing data extraction progress in order to reduce human resource and bias. Clark and Oxman (2001) state the important function of data extraction stage is to provide an historical record of all decisions made during the last three steps. General information, study features and specific information are three main information extracted at the fourth stage. Authors name (s),

published year, journal name, the used concepts, the definition of the concept, research type, research setting and measurement scales were extracted from retained studies.

5. Interpreting the findings

The extracted information analysed and interpreted in the final step. The structure of the interpreting the findings is as follows: All studies were briefly explained and the key points in relation to the concept of customer engagement were discussed. Then, the limitations of the construct's conceptualisation of the prior studies were highlighted. In addition, the current research presents the interpretation of the findings in two separate sections. The remaining articles were categorised into two groups: articles published before 2010 and articles published after 2010. The reason behind this classification is to show that the year 2010 is a turning point in studying the concept of engagement in the online environment, particularly online brand communities. As mentioned in the background to the current research, the importance of customer engagement was highlighted by the Marketing Science Institute (MSI) in 2010, which encouraged researchers to study the concept. MSI's emphasis on customer engagement as a key research area contributing to the field enhanced academic insights into customer behaviour in complex and co-creative environments. The underlying theoretical foundation for the first research category (Before 2010) was adopted from Bagozzi and Dholakia's (2002) often-cited definition of customer engagement. Regarding the second research category (After 2010), an exploratory analysis of customer engagement in an online brand community by Brodie and Hollebeek (2011) was the first response to the need for further research regarding the customer engagement concept. The following sections present these two groups of articles.

3.2.1 First Stream of Research Regarding Customer Engagement (Before 2010)

The majority of the research before 2010 has conceptualised the concepts related to customer engagement as a one-dimensional behavioural construct. These studies mainly use 'customer participation' as a dominant term to describe customer behaviour in online communities. Table 5 summarises the studies published before 2010 in which customer engagement is conceptualised as a one-dimensional construct.

Table 5 Summary of the Customer Engagement Research Before 2010

Authors	The concept used	Research type	The research setting	Measurement Scales
Bagozzi and Dholakia (2002)	Online community participation	Empirical: quantitative	Online chat-room	Two items regarding intention to participate in the next two weeks
Dholakia et al. (2004)	Customer participation	Empirical: quantitative	Online communities	Two items: frequency of visit and visit duration
De Valck et al. (2009)	Customer Participation	Empirical: quantitative	Online food community	12-item scale including retrieving, discussion and sharing information
Algesheimer et al. (2005)	Community engagement	Empirical: quantitative	Car club members	4-item scale
Zhou (2010)	Online community user participation	Empirical: quantitative	University student Internet users	Adopted from Dholakia et al. (2004)
Shen et al. (2009)	We-intention	Empirical: quantitative	University student using QQ group	Adopted from Dholakia et al. (2004)
Bagozzi and Dholakia (2006)	Customer participation	Empirical: quantitative	Small group brand communities	Adopted from Dholakia et al. (2004)
Wang et al. (2010)	Online Community Participation	Empirical: quantitative	Web-based academic research	Adopted from Dholakia et al. (2004)
Cheung and Lee (2010)	We-intention	Empirical: quantitative	Facebook users	Adopted from Dholakia et al. (2004)
Shen et al. (2010)	We-intention	Empirical: quantitative	Instant messaging	Adopted from Dholakia et al. (2004)
Madupu and Cooley (2010)	Community participation	Conceptual	Online brand community	Not relevant
Van Doorn et al. (2010)	Customer engagement behaviour	Conceptual	Brand community	Not relevant
Rafaeli and Sudweeks (1997)	Interaction	Conceptual	Computer-mediated groups	Not relevant
Schlosser (2005)	Participation	Conceptual	Online community	Not relevant
Alon et al. (2005)	Interaction	Conceptual	Online consumption community	Not relevant
Kozinets (1999)	Participation	Conceptual	Online community of consumption	Not relevant

According to Table 5, the studies have used two main approaches to measure participation behaviour (excluding the conceptual studies by Van Doorn et al. (2010) and Madupu and Cooley (2010)). The first approach, which includes the bigger segment of research, has followed the same approach since Bagozzi and Dholakia (2002) proposed a model of customer participation

in online communities in which the authors measured the construct by two variables: visit frequency and visit duration. Visit frequency is measured by the question "How many times did you chat online with your group within the last 2 weeks?" and visit duration is measured by the question "How much time did you spend on average when you chatted with your group". These are two self-report variables to measure total participation of individuals in virtual communities. These two variables are also easily captured by analytics software such as Google Analytics when it comes to website-based community engagement studies where brands are able to track the average time engaged and the number of repeat visits. Therefore, according to this approach, participation behaviour is the product of visit frequency and visit duration.

The other group of studies uses the approach that has also been adopted by managers to classify customers into two groups: lurkers and posters (Schlosser, 2005). This simple classification distinguishes between two groups of members: those actively contributing to the content (Poster), which is referred to as user-generated content (UGC), and those who just read the contributions of others (Lurker). As it is straightforward and has wide applicability across different online communities, this method of classification is popular, and it is measured easily based on the log file data of individuals in online communities.

Apart from those mentioned approaches, Kozinets (1999) and Kim (2000) suggest the conceptual classification of online community members. The typology of community members in a study by Kozinets (1999) is based on social ("relation with the online community") and topical ("relation with the consumption activity") involvement. Therefore, Kozinets (1999) identifies four types of members: Tourists, Minglers, Devotees and Insiders. **Tourists:** this term indicates those who are neither interested in interaction with others within the community nor interested in the community purpose. They join a community in order to gather information about that brand for purchase decision-making in the future. They have a weak social tie to online communities and they are not interested in providing information. **Minglers:** this term refers to members with a strong social tie with others or those who have joined the community to build social relationships. The majority of them have purchased the product recently and they want to help providing information about its usage to other users. **Devotees:** This term represents those who are loyal customers of the brand with a strong interest in it, but they are not interested in social activities. They are really knowledgeable about the brand and they contribute by providing professional information for others. **Insiders:** This behaviour indicates those who are interested in social activities and who have strong brand loyalty. They are true leaders of the community

through sharing information with others and communicating with other community members. They are important for marketers due to their valuable information and their interest in social activities. Figure 5 shows the different members' behaviours based on Kozinets' classification.

Figure 5 Classification of Customer Behaviour in Online Communities
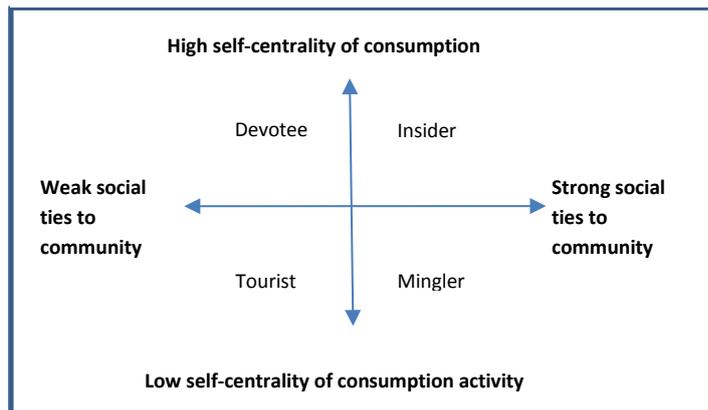
In contrast, Kim (2000) adopts a dynamic perspective which looks at participation behaviour as containing progressive stages over time and suggests a membership life cycle. In his approach, members are classified based on increasing levels of power in the community, responsibility and participation. However, their typologies have not been examined beyond a conceptual level. A number of other typologies (e.g. De Valck et al., 2009) have been developed and proposed by others but this is beyond the scope of the current research.

3.2.1.1 Limitations of the Previous Studies

Reviewing the studies in this group revealed that the concept of 'engagement' is relatively new to the marketing literature. There is no attempt amongst the studies before 2010 to investigate it as an important factor that influence on the attainment of organisational performance outcomes (Hollebeek et al., 2014). These studies mainly use similar concepts such as participation to examine customer behaviour in online communities. There is no clear understanding of different levels of participation in online communities. The first group in which measurement of the consumer engagement is based on visit duration and frequency of visit does not take into account how this participation is shaped. De Valck et al. (2009) highlight the weakness of this simplistic approach in that it does not differentiate levels and varying shapes of engagement or participation.

Similarly, the major shortcoming of the studies that use the poster-lurker classification relates to the simplicity of this classification. It does not show a clear understanding of engagement in a community when the classification is based on who posts in an online community and who does not. It is important to note that developing a marketing strategy based on this large segmentation would not be valuable or efficient (De Valck et al., 2009).

3.2.2 Second Stream of Research Regarding Customer Engagement (After 2010)

After 2010, the concept of engagement received considerable attention from scholars and emerged in the marketing literature. The important difference in these studies when compared with the first stream of research is in viewing the concept of engagement as a promising concept which is expected to provide "enhanced predictive and explanatory power of focal customer behaviour outcomes including brand loyalty" (Hollebeek et al., 2014: 149). The engagement-related terms in this group of studies are in line with the focus of the current research.

Table 6 provides an overview of the second stream of research using engagement-based concepts that can be seen in the studies after 2010. The engagement-based concepts include customer engagement, which is used in the study by Brodie and Hollebeek (2011), online engagement by Calder et al. (2009), customer brand engagement by Hollebeek (2011a; 2011b) and community engagement by Algesheimer et al. (2014). As this study follows the theoretical study by Brodie et al. (2013), the concept of 'customer engagement' is adopted and this term is used in the current research (as justified in Chapter Two, Section 2.2.2).

The following observations are revealed from reviewing the conceptualisations of engagement in this group of studies. First, the concept of engagement is represented as a multi-dimensional concept. For example, the concept of engagement in Abdul-Ghani et al.'s (2011) study comprises three dimensions: 'utilitarian', 'hedonic' and 'social', whilst, in of Hollebeek's (2011b) study, the concept includes three dimensions: 'cognitive', 'emotional' and 'behavioural'. Second, the concept of engagement is represented by other relevant constructs in the studies before 2010, such as participation. The conceptual distinctiveness was explained in Section 2.2.2.5. Third, the concept of engagement plays a key role in a nomological net of focal conceptual relationships (Brodie and Hollebeek, 2011; Hollebeek, 2011a), which is explained in the next chapter, where

the conceptual model of the current research is presented. Fourth, the concept of engagement exhibits a motivational state that is important for many online offerings. Hollebeek et al. (2014: 150) believe that the motivational state occurs by "virtue of an individual's focal interactive experiences with a particular object or agent". Reviewing the conceptualisations of engagement reveals that the individual includes customer and consumer, and the object or agent includes brands and organisation. In the current research, the terms 'customer' and 'brand' represent individual and object respectively. Finally, as mentioned in the introduction, there is a lack of customer engagement scales in the marketing literature. Specifically, the current research aims to develop a the customer engagement scale based on the exploratory study of Brodie et al., 2013).

Table 6: Summary of the Studies After 2010

Journal	Author(s)	Year	Concept	Research Type	Definition	Dimensionality
Journal of Service Research	Brodie and Hollebeek	(2011)	Customer Engagement	Conceptual	A motivational state that occurs by virtue of interactive, co-creative customer experiences with a focal agent/object (e.g. a brand) in focal brand relationships.	Multi-dimensional: 1. Cognitive 2. Emotional 3. Behavioural
Journal of Marketing Management	Hollebeek	(2011a)	Customer Brand Engagement	Conceptual	The level of an individual customer's motivational, brand-related and context-dependent state of mind characterised by specific levels of cognitive, emotional and behavioural activity in brand interactions.	Multi-dimensional: 1. Cognitive 2. Emotional 3. Behavioural
Journal of Business Research	Brodie et al.	(2013)	Customer Engagement	Empirical: Qualitative	A multi-dimensional concept comprising cognitive, emotional, and/or behavioural dimensions, which plays central role in the process of relational exchange where other relational concepts are engagement antecedents and/or consequences in iterative engagement processes within the brand community.	Multi-dimensional: 1. Cognitive 2. Emotional 3. Behavioural
	Abdul-Ghani et al.	(2010)	Engagement	Empirical: Qualitative	Requires customer connection (e.g. with specific media)	Multi-dimensional: 1. Utilitarian 2. Hedonic 3. Social
Journal of Strategic Management	Hollebeek	(2011b)	Customer Brand Engagement	Empirical: Qualitative	A customer's level of cognitive, emotional and behavioural investment in specific brand interactions.	Multi-dimensional: 1. Cognitive 2. Emotional 3. Behavioural
Journal of Consumer Research	Phillips and McQuarrie	(2010)	Advertising Engagement	Empirical: Qualitative	'Modes of engagement' are routes to persuasion	Multi-dimensional: Consumers engage ads to: 1. Immerse 2. Feel 3. Identify 4. Act
Journal of Marketing Theory and Practices	Viveck et al.	(2012)	Customer Engagement	Conceptual	Customer engagement is the intensity of an individual's participation in and connection with an organisation's offerings or organisational activities, which either the customer or the organisation initiates.	Multi-dimensional: 1. Cognitive 2. Affective 3. Behavioural 4. Social

3.2.3 Empirical Studies Regarding Customer Engagement in the Online Brand Community

The current research undertook the second literature review at the end of 2014, before data collection, to include the latest customer engagement studies. Considering this emerging literature, it was predictable to find newly published studies in this area since the last literature review. The conditions were imposed that studies from 2014 published in 3* and 4* journals would be included for the literature review. This decision was made due to the result of the observation from the first literature review that the influential studies were published in these two groups of journals. Despite the insights of other studies in the 1* and 2* journals, they have adopted the same approach as pioneering studies to extend the application of their findings. Time limitation was the other important reason why 3* and 4* journals were selected to undertake the second literature review.

This section explains the most recent studies in 2014 and 2015 that specifically examine the role of customer engagement in online communities. It includes the latest studies in this area before explaining about the proposed conceptualisation of customer engagement in the current research. These empirical studies respond to the identified research gap in the research by Hollebeek et al. (2014) and Brodie et al. (2013) regarding the lack of empirical study. Table 7 provides an overview of the reviewed studies that have been published in the following journals: Journal of Business Research, Information Systems Research and Decision Support Systems. Three new published articles that adopt a quantitative approach to examine customer engagement in online communities are explained as follows.

Ray et al. (2014) develop a conceptual model to explore the relationship between customer engagement with other related constructs and they design an empirical study to assess the validity of their proposed model. This study was published in the journal of Information Systems Research. As the focus of this section is on the concept of customer engagement in these studies, the other constructs are not considered. First of all, the authors use the term 'community engagement' in the study. Secondly, the concept of community engagement is conceptualised as "a positive psychological state in which online community members are enthusiastic about undertaking pro-social tasks that benefit other members or online community as whole" (Ray et al., 2014: 529). Thirdly, in this study the community engagement construct is a first-order

construct. Finally, they have adopted the items from Algesheimer et al. (2005) in order to measure the construct.

Tsai and Pai (2014) also present their research framework including the antecedents of engagement in online communities. They specifically focus on newcomers and examine the factors that are correlated with engagement in online communities. Firstly, they use the term 'community participation' in their conceptual framework and conceptualise it as "proactive participation behaviour", which includes: posting, uploading and promoting participation. They assess participation behaviour using objective behavioural data. Secondly, they use multiple-item scales for the participation construct that has been considered as a first-order construct.

A newly published study by Baldus et al. (2015) exclusively and precisely addresses the existing gap regarding the need for an empirical study to develop a scale of customer engagement in online brand communities. Although they attempt to close the mentioned gap mainly by examination of customer motivations in online brand communities, they also propose them as different dimensions of the 'customer engagement' construct. Therefore, this paper and the current research are the first to truly capture the dimensions of customer engagement in online brand communities.

Table 7 The Most Recent Empirical Studies of the Customer Engagement Concept

Journal	Author	Year	Concept	Research setting	Dimensionality
Information Systems Research	Ray et al.	2014	Community engagement	Online Discussion Forums	One-dimensional (3-item scale)
Decision Support Systems	Tsai and Pai	2014	Online community participation	Taiwanese Internet community platform	One-dimensional (2-item scale)
Journal of Business Research	Baldus et al.	2015	Online brand community engagement	Online Brand Community	11 dimensions (42-item scale)

3.2.3.1 Limitation of Studies on Customer Engagement in the Online Brand Communities

Before discussion about the proposed conceptualisation of 'customer engagement' in this study in order to measure the construct, the limitations of the prior research are summarised in this section. Through this comprehensive critical review of prior studies addressing the concept of 'customer engagement', a number of limitations are apparent in the extant literature; these limitations are categorised into four main groups, as presented in the following paragraphs:

A. There is a lack of a reliable and valid scale for the customer engagement construct in the marketing literature. Brodie et al. (2013) and Hollebeek (2011a; 2011b), as pioneering studies on customer engagement, emphasise the need for the development of the construct's scale. The development of a reliable and valid scale provides the empirical evidence for the exploratory findings. Particularly, the development of the construct scale enables scholars to test the focal relationships between customer engagement and potential customer behaviour outcomes including customer satisfaction and brand loyalty.

B. It has been more than a decade since Bagozzi and Dholakia (2002) and Dholakia et al. (2004) investigated the concept of participation in online communities for the first time. These initial conceptualisations, as also highlighted by Baldus et al. (2015), do not account for the new possibilities of interaction in the online brand community. This new interactive environment has been enabled by recent technological innovations and the substantial investment of organisations in the development of online brand communities. Importantly, the new concept of 'engagement' need to be re-examined in the online brand community.

C. Although early investigations into online brand communities provide us with important theoretical frameworks and insights into the dimensions of the concept, understanding of the concept and its measurement to date remains limited. These limitations were highlighted by Brodie et al. (2013), Leeflang et al. (2009) and the Marketing Science Institute (MSI, 2010). The current research responds directly to calls for further empirical research regarding customer engagement in online brand communities.

D. The unique dimensions of customer engagement in online brand communities have not been examined to date and no prior study has been undertaken to understand this construct. Despite significant practitioner interest, the study of brand communities in the online domain has been very little examined. While the concept of customer engagement has been investigated in forums

by Calder et al. (2009), in social media by Hollebeek et al. (2014), and in C2C communication by Brodie et al. (2013) and Hennig-Thurau et al. (2004), the study of customer engagement in online brand communities has not been investigated (Baldus et al., 2015).

3.3 The Proposed Dimensions of Customer Engagement in the Online Brand Communities

The previous sections reviewed the concept of engagement in other studies. Additionally, the latest studies using the concept of customer engagement in online communities were explained. This was followed by an explanation of the four main limitations of prior research, which have resulted in a limited understanding of customer engagement and provide the evidence for the rationale for the current research. The current research addresses the identified literature gap by developing and validating a customer engagement scale in the online brand community. In this section, the proposed conceptualisation of customer engagement in the online brand community that is based on the exploratory analysis by Brodie et al. (2013) is explained. Figure 6 reveals the proposed dimensions of customer engagement: cognitive, emotional and behavioural. The author suggests that these three dimensions can be extended in the identification of five specific customer engagement behavioural dimensions in online brand communities: 'socialising', 'sharing', 'advocating', 'co-developing' and 'learning'. The current research adopts the view of customer engagement as a multi-dimensional construct, which is in line with the studies of engagement with five dimensions, in order to develop a reliable and valid construct scale.
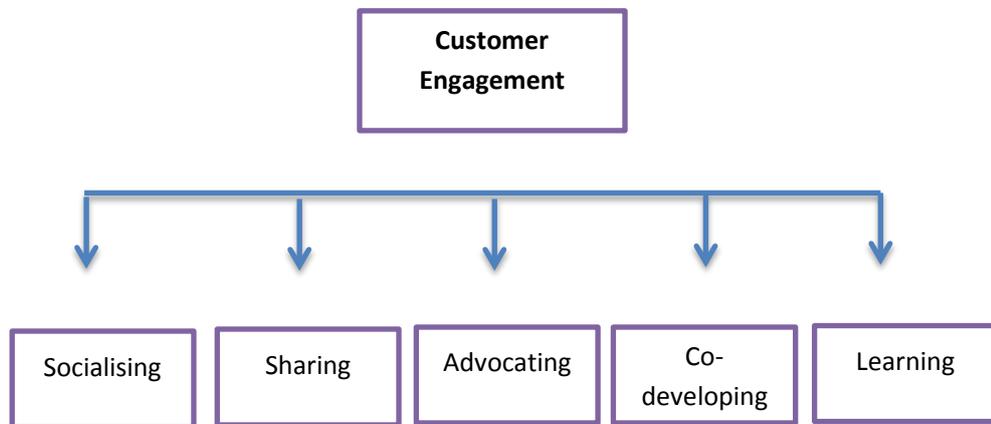
As mentioned, this study adopts the dynamic conceptual model of the consumer engagement process in the online brand community proposed by the research of Brodie et al. (2013). The research has identified that customer engagement comprises five dimensions, as shown in Figure 6: socialising, sharing, advocating, co-developing, and learning.

Three of the five dimensions have been conceptualised in the latest published quantitative study, which is by Baldus et al. (2015). The authors identify the dimensions of the customer engagement construct in the online brand community using a qualitative method and then develop and validate the scale in order to measure this construct. They identify 11 dimensions based on analysis of both qualitative and quantitative data. The 11 dimensions are identified through five steps, two qualitative studies including focus groups and interviews, and three quantitative studies comprising three online surveys. The 11 identified dimensions are: Brand influence, Brand, Connecting, Helping, Like-minded discussion, Reward (Hedonic), Reward (Utilitarian), Seeking assistance, Self-expression, Up-to-date information and Validation. Three dimensions among these 11 dimensions are similar to those mentioned in the current research. Brand influence, like-minded discussion and seeking assistance are as same as co-developing, socialising and learning respectively. The following section explains the five dimensions of the customer engagement construct that are adopted by the current research, and they are compared to Baldus et al.'s (2015) study. The limitations of this study are then presented.

Learning

The dimension of learning "characterises the vicarious acquisition of cognitive competencies that customers apply to purchase and consumption decision-making" (Brodie et al., 2013: 111). This dimension is similar to what De Valck et al. (2009) and Baldus et al. (2015) call 'seeking assistance' as a dimension of engagement in an online brand community. In this stage, customers share their questions with others so that other customers can help them. Baldus et al. (2015: 4) define the dimension of 'seeking assistance' as "the degree to which a community member wants to receive help from fellow community members who share their knowledge, experience, or time with them". These two concepts characterise the same dimension of customer engagement in the online brand community in both studies, and the current research, in line with Brodie et al.'s (2013) study, adopts the term 'learning' to represent this dimension.

Sharing

The other dimension of customer engagement is known as the sharing stage. It includes the "sharing of personal relevant information, knowledge and experiences through the process of active contributions to the co-creation of knowledge within the online community" (Brodie et al., 2013: 111). The behavioural and cognitive dimension of consumer engagement is reflected in this stage. This dimension is also identified in the study by Baldus et al. (2015) as 'helping'. This engagement dimension is defined as "the degree to which a community member wants to help fellow community members by sharing knowledge, experience, or time" (Baldus et al., 2015: 4). These two dimensions reflect same aspect of customer engagement in the online brand community, and the current research uses 'sharing' to represent the second dimension.

Co-developing

The third dimension of customer engagement in online brand communities is 'co-developing', which is defined as "a process where customers contribute to organisations and/or organisational performance by assisting in the development of new products, services, brand or brand meaning" (Brodie et al., 2013: 111). In Brodie et al.'s (2013) research, conducted in a 'health and fitness' community, the authors show how customers contribute to the development of a new product through the engagement process. They have suggested new features for the new product and also they have justified the need for the new product. This dimension is also

identified in Baldus et al.'s (2015) study, where it is called 'brand influence'. They define this dimension as "the ardent affection a community member has for the brand". The current research adopts the term 'o-developing' for this dimension.

Advocating

When customers actively encourage other members to buy a specific brand and recommend a service or product to them, this is known as the advocating stage. Brodie et al. (2013) suggest that "advocating [is] an expression of customer engagement". This dimension includes the degree to which a community member wants to express the brand recommendation through engagement in the online brand community.

Socialising

Finally, socialising is the fifth dimensions of customer engagement in the online brand, community which is defined by Brodie et al. (2013: 111) as "two-way, non-functional interaction through which customers acquire and/or develop attitudes, norm and/or community language". The degree to which a community member is interested in communicating and talking with other community members is reflected through the socialising dimension. The definition of each dimension is shown in Table 8.

Table 8 Summary of Customer Engagement Dimensions and Their Definitions

Dimensions	Definition
Learning	The degree to which a community member wants to receive help from fellow community members who share their knowledge, experience, or time with them
Sharing	The degree to which a community member wants to help fellow community members by sharing knowledge, experience, or time
Co-developing	The ardent affection a community member has for the brand
Advocating	The degree to which a community member wants to express the brand recommendation through the engagement in online brand communities
Socialising	The degree to which a community member is interested in communicating and talking with other community members

3.4 The Limitations of Baldus et al.'s Study of Customer Engagement

To the knowledge of the author, at the time of writing this thesis, the recent study by Baldus et al. (2015) is the only empirical study to examine the dimensions of customer engagement in the online brand community. Similar to the objective of the current research, Baldus et al. (2015) have conducted a study to develop a reliable and valid scale for the customer engagement construct.

One of the important weaknesses is that Baldus et al. (2015) consider both the construct's antecedents and dimensions as dimensions of customer engagement in the online brand community. Seeing antecedents as a dimension does not offer a clear understanding of the construct and thus the developed items do not measure the construct itself. It is extremely important to note that the objective of item development for a specific construct is to provide an empirical estimate of a specific theoretical construct of interest (Gerbing and Anderson, 1988). Up-to-date information, rewards, connecting and self-expression are the proposed dimensions that have been examined as antecedents in prior literature. A large body of studies including the current research examines up-to-date information as the antecedent of engagement. The studies by Dholakia et al. (2009) and Lin (2008) are examples of this group of studies that explore up-to-date information as the antecedent of participation in a community. Bagozzi et al. (2004) examine the importance of rewards as important motivation to engage in the online community. In addition, connecting and self-expression are examined in the studies of Bagozzi and Dholakia (2006), Carlson et al. (2008) and Zhou (2011).

The other possible limitation of Baldus et al.'s (2015) study is related to its research design and specifically the method used to identify the engagement dimensions. The study follows a grounded theory approach to identify the construct's dimensions in order to develop the scale. It uses a series of qualitative research efforts including focus groups and qualitative surveys to identify dimensions of the construct. A lack of observation of the online brand community limits the understanding of the actual customer behaviour in this complex environment. There are several studies that suggest the netnography method as an appropriate research approach for studying online communities. This method was introduced by Kozinets (1999), and then a number of studies such as Muniz and Guinn (2001) and Brodie et al. (2013) have adopted a netnographic methodology to explore customer behaviour in online user groups. In this method,

the researcher adapts the ethnographic research technique in order to study online communities.

3.5 Summary

This chapter has systematically reviewed the existing customer engagement literature. Prior studies were categorised into two groups titled 'Before 2010' and 'After 2010'. It was found that these studies made only limited attempts to examine the concept of customer engagement, and the dominant studies emphasised related concepts such as participation. It was observed that the concept of engagement emerged in the marketing literature after 2010. All the reviewed studies conceptualised engagement as a multi-dimensional concept that plays an important role in a nomological net of focal conceptual relationships. The current research adopts the definition of customer engagement proposed by Brodie et al. (2013) comprising five dimensions: socialising, learning, advocating, sharing and co-developing. The definition is in line with the objective of the current research, which is to develop a reliable and valid customer engagement scale.

The current research has included the latest customer engagement studies in the second stage of the literature review, including Baldus et al.'s (2015) newly published study on customer engagement in the online brand community. This chapter ended with the discussion on the limitations of Baldus et al.'s study.

Next chapter presents the conceptual model that explains the relationship between the customer engagement and the potential antecedents and consequences. Nomological validity of the construct's scale will be tested using the proposed framework in the next chapter.

Chapter Four

Theoretical Framework and Hypotheses

4.1 Introduction

The previous chapter has presented a systematic literature review on customer engagement. Reviewing the existing studies has identified an important gap, which is a lack of empirical studies outlining customer engagement scales in the marketing literature. The objective of this chapter is to address the second research objective, "***To develop a customer engagement model in online brand communities based on the Elaboration Likelihood Model"***.

This chapter aims to present a conceptual model of the relationships between customer engagement and potential antecedents and consequences. The conceptual model provides a means by which to test the nomological validity of the customer engagement construct. This chapter is structured as follows.

It begins with an explanation of the current models used to explain customer engagement or related concepts such as participation in the online community. The two main models used in the pioneer articles are reviewed, the Technology Acceptance Model (TAM) and the Theory of Planned Behaviour (TPB); these have been the two main models used to study customer behaviour in the online community. The literature related to each model is reviewed and the models' applications are presented and discussed, followed by a detailed review of their limitations.

The new model is proposed after reviewing the current models, which explicates a number of potential antecedents and consequences of customer engagement. Social influence variables as well as information quality are adopted as the antecedents of the proposed customer engagement process model. The proposed model is based on the Elaboration Likelihood Model (ELM), which is extensively used in psychology studies. The reasons behind the adoption of this model are mentioned and the chapter addresses how this model is incorporated with Social Influence Theory to explain the customer engagement process in the online brand community and its outputs. A large body of research in psychology studies has investigated the nature of the ELM and explained how individuals evaluate the information process in their minds. However,

the mental information processing is beyond the scope of this study, which is only concerned with the stages of the processes and elements that impact on these processes.

Based on the proposed model, related hypotheses are suggested. Each hypothesis and its explanations are separately discussed. By presenting the summary of the hypotheses, this chapter leads to the research methodology chapter.

4.2 Main Models of Online Customer Behaviour

Researchers have become more interested in modelling customer behaviour since 1978 (Du Plessis et al., 1990). Due to the dramatic changes in the online environment, there are more factors that have an influence on customer behaviour. These changes can be seen in customers' decision-making process, purchase process and information searching. Therefore, new models are necessary to explain new issues and also to address the limitations of prior models in customer behaviour research.

By reviewing the diverse studies of customer behaviour, two main models can be identified. The first group includes a wide range of constructs in a conceptual model. These models are known as 'grand models'. The second group of models explains how customers' attitudes are formed and tries to predict their behaviour. In contrast with the 'grand models', these models emphasise the order of constructs and their causal effects on shaping the behaviour. The Technology Acceptance Model (TAM) and the Theory of Planned Behaviour (TPB) are the main models in this group.

4.2.1 Technology Acceptance Model (TAM)

As mentioned above, the Technology Acceptance Model (TAM) belongs to the group of models that aims to assess behavioural intention of individuals, which is a main driver for actual behaviour (Davis, 1989). Hence, both this model and the Theory of Planned Behaviour (TPB) are known as theories of behavioural intention. However, the individual's behavioural intention is presumed as the most immediate cause of an action. These theories aim to answer this question: "What determines intentions?".

The TAM (Technology Acceptance Model) was proposed by Davis (1989) and Davis et al. (1989), and addresses the reasons for accepting or rejecting information technology (IT). Their suggested model is adopted from the Theory of Reasoned Action (TRA), which was proposed by Fishbein and Ajzen (1975). TRA is suggested to anticipate the user's behaviour in a specific situation. Figure 7 presents the TRA model. According to this model, the individual's intention to perform or not perform a specific behaviour is a function of two main factors: subjective norm and individual's attitude towards the given behaviour. However, these two factors do not have an equal influence on the individual's intention, and it varies in different circumstances. Attitude towards the behaviour refers to the individual's salient belief regarding the behaviour. It is measured based on the evaluation of each belief and its strengths that an individual holds. The other factor, subjective norm, is defined as:

"*the extent to which members of a social network influence one another's behaviour to conform to the community's behavioural patterns*" (Shen et al., 2010: 154).

Moreover, it is based on the individual's motivation to comply with community rules (Dholakia et al., 2004). Importantly, from the persuasion perspective this model identifies that the individual's behaviour changes under three conditions: first, if the component of the attitude changes, second, if the normative factor change and third if the related weighting of these components changes. Moreover, empirical studies show that "changing a component will lead to a change in intentions only when the component is significantly associated with intention" (Legris, Ingham, & Collerette, 2003).

Figure 7 Theory of Reasoned Action
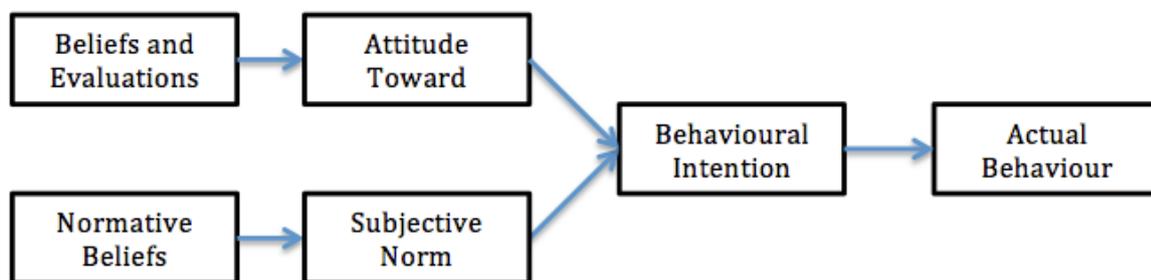
Prior research in the area of Information Systems has largely sought to identify the determinants that influence users to accept a particular IS. Davis (1989) and Davis et al. (1989) propose a TAM that is the IT-specific variant of the TRA (Figure 8). Researchers have adopted this model to study why a user joins a community. According to this model, Perceived Usefulness and Perceived Ease of Use are believed to shape the behaviour that is IT adoption.

Figure 8 Technology Acceptance Model
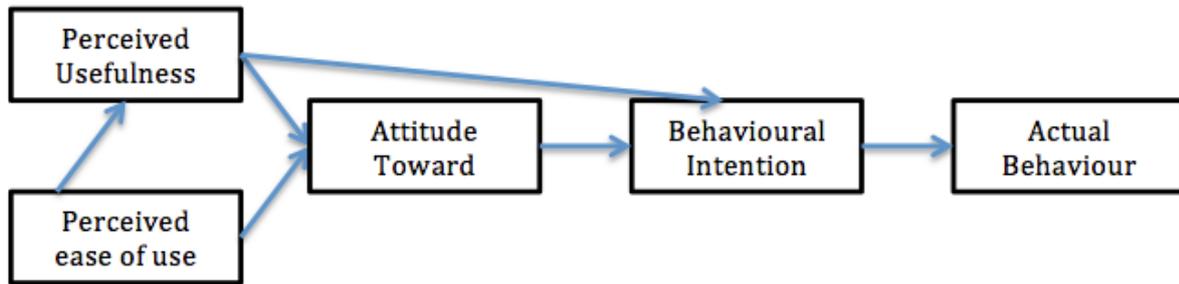
4.2.2 Theory of Planned Behaviour (TPB)

Both the Technology Acceptance Model (TAM) and the Theory of Planned Behaviour (TPB) are extensions of the TRA. TPB was developed by Ajzen (1991) and suggests a third component, Perceived Behavioural Control (PBC), in addition to those components in the TRA – Attitudinal and Normative influence – as a predictor of intention. PBC is related to an individual's perception about the difficulty or ease of an action. The concept is quite similar to the term self-efficacy, which Legris et al. (2003) define as "a person's ability to perform or control a behaviour". Figure 9 presents this model with its components and their associations.

Figure 9 Theory of Planned Behaviour (adapted from Ajzen, 1991)
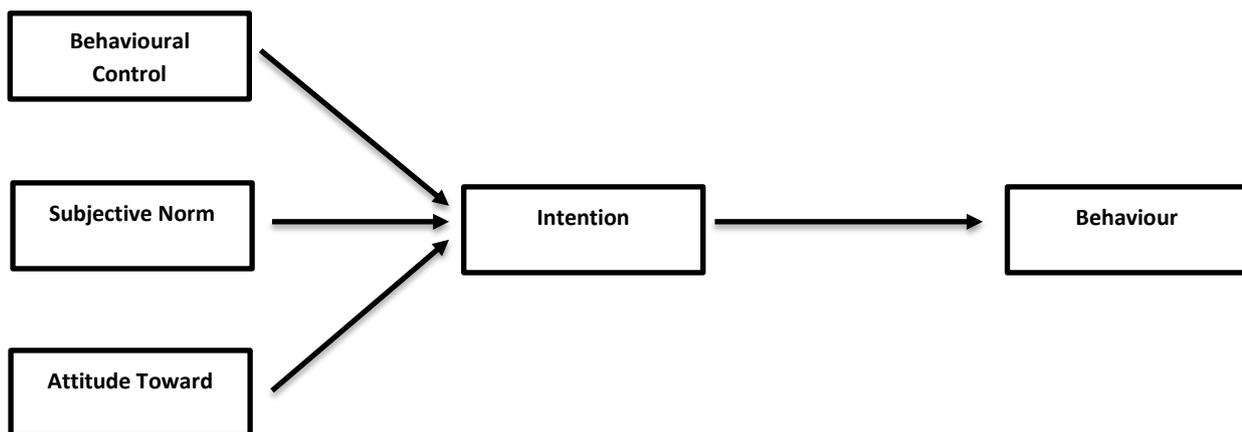
Although TAM is a powerful theory to predict IS usage, TPB provides a better understanding of customer behaviour in an online context. Furthermore, in contrast to TAM, which is proposed for specifically studying Information Systems (IS), TPB is widely used in psychology and

subsequently researchers have adopted it for IS. The similarity between these two models in terms of prediction of online customer behaviour is related to the importance of the user's attitude towards e-commerce (George, 2004; J. Kim and Park, 2005; Vijayasarathy, 2004).

4.3 The Models and Online Community

The previous section has introduced the two main models (TAM and TPB) in the study of online customer behaviour. Although these models are mainly used to identify the factors that facilitate IS use, the focus of this section is on the studies that adopt these models to study customer engagement behaviour in online communities. This section reviews the studies with two characteristics: first, the studies in which the developed model is based on TAM and TPB, and second those that include the customer engagement construct or similar constructs in the model.

Table 9 provides an overview of the studies undertaken to test the TAM and TPB models to study customer engagement in online communities. The column 'Constructs' presents the factors other than original factors in the model that were added to study customer participation behaviour in online communities.

Table 9 Summary of Studies Adopting TAM & TPB to Study Online Communities

Author	Year	Model	Constructs	The used concept	Context
Chung et al.	(2010)	TAM	Internet self-efficacy, quality of online community, Technology affordance, Privacy protection	Online community participation	Online panel for media research
Wang et al.	(2010)	TAM	Internet self-efficacy, Community environment, Intrinsic motivation	Actual use	Online panel including different online communities
Raunair et al.	(2014)	TAM	Perceived playfulness, critical mass, capability	Actual use	Facebook
Casalo et al.	(2010)	TAM	Identification	Intention to participation	Online travel community
Park & Yang	(2012)	TPB	Self-efficacy, collective efficacy	Participation	Online environmental communities
Liu et al.	(2010)	TAM	Perceived interaction	Intention to use	Online learning community
Hajli et al.	(2015)	TPB	Social support, perceived value	Participation	Facebook, TripAdvisor, LinkedIn
Jung et al.	(2014)	TAM	Informational benefit, social benefit	Actual use	Online brand community
Gwebu et al.	(2014)	TAM	Trust, enjoyment	Continued use	Facebook

According to Table 9, the following observations have been revealed. First, the 'intention to use' variable plays an important role in determining use behaviour or participation behaviour in the online community. Second, the findings of the studies suggest that the models based on TAM and TPB are robust across different settings and community populations. In support of this point, Zhao et al. (2013: 903) posit "the results from numerous studies suggest that belief-intention-behaviour framework is robust across a broad range of technologies, user populations, and settings". Third, the models only include the motivational factors, and the consequences of using an online community have not been examined. The developed models mainly focus on testing the original factors in order to extend the application of the TAM & TPB in the online community context. Fourth, in contrast to the original model, the terms 'participation' and 'actual use' have been used to investigate the continued use of the online community. Despite the important

insights of the reviewed studies in understanding customer behaviour in the online community, the next section discusses the limitations of these two dominant theoretical perspectives on individual online community acceptance (Bhattacherjee and Sanford, 2006).

4.3.1 Limitations of Prior Models

The previous section presented the two important models used in investigations of customer behaviour in relation to Information Systems, particularly online communities. The reviewed studies have used terms such as actual use or participation to go beyond the IS adoption. However, the operationalisation of the mentioned terms is not different from the original variable in the model. To illustrate, 'actual use' has been operationalised in the same way as IS acceptance in the relevant studies. Moreover, Turner et al. (2010: 463) offer strong evidence that TAM variables are less likely to be correlated with actual use, and they conclude that "care should be taken using the TAM outside the context in which it has been validated". In addition, 'participation' has been defined as the "likelihood of participating in an online community" (Hajli et al., 2015). Their definition of 'participation' does not clearly explain how customer behaviour is shaped in the online community. Furthermore, there is a lack of studies using TAM & TPB to investigate the customer's behaviour after accepting and joining an online community. Although IS acceptance as initial adoption is important, it does not necessarily mean that users will engage in Information Systems after accepting them (Bhattacherjee and Sanford, 2006). Studying influential process towards IT acceptance comprises the dominant body of research while there is a lack of research regarding post adoption of IS. As mentioned in Section 3.2.2, customer engagement comprises different dimensions that result from customer interactions with the online community. Therefore, these models are not appropriate models to explain antecedents and consequences of customer engagement in the online brand community. Apart from this, the mentioned models (TAM, TPB) only consider internal variables based on user's perception towards a particular Information System and only subjective norm as an external influence is examined, whilst prior research has identified the importance of external influences in shaping online behaviour (Legris et al., 2003). Thus, using these models would limit our understanding of factors that influence customer engagement in the online brand community.

4.4 Elaboration Likelihood Model (ELM)

The current research is interested in applying the dual-process models to develop a conceptual framework. Indications of influence and the importance of the influence process in modelling individuals' attitudes and behaviour have been explored by extant dual-process theories in the field of social psychology. The Elaboration Likelihood Model (ELM) is the specific dual-process theory of interest to the current research. ELM is a theory of persuasion and explains the influence processes that lead to attitude change. Petty and Wegener (1999) suggest that ELM provides a comprehensive framework through which to understand how individuals deal with different influential factors.

This model posits that two distinct 'routes' of influence cause the change in an individual's behaviour: the Central Route and the Peripheral Route. "Central-route attitude changes are those that are based on relatively extensive and effortful information-processing activity, in contrast peripheral-route attitude changes are based on a variety of attitude change processes that typically require less cognitive effort" (Petty and Wegener, 1999: 42). The influencing process happens through the central route when a person examines the issue-relevant considerations thoughtfully. In contrast, when individuals use some simple decision rules in order to form and change their attitude, the influence process happens through the peripheral route. For example, in message-based communication, argument quality and source expertise are considered as constructs of central and peripheral routes respectively (Li, 2013).

Motivation and ability to think carefully are the two main conditions that identify the route through which the influence process happens. These conditions will determine how individuals deal with different persuasive appeals. The central route of persuasion occurs when an individual is highly motivated and involved with the topic of communication and has a high degree of ability to process the argument. However, when an individual's information-processing capability and involvement are limited, the peripheral route of persuasion occurs (Yang et al., 2006). Factors that influence an individual's attitude under the peripheral route are called 'peripheral cues' and factors that do so via the central route are called 'central cues'.

4.4.1 The ELM in Different Disciplines

Although the ELM has been developed in social psychology (Kitchen et al., 2014), it has also been applied in other disciplines such as advertising (Morris, Woo, & Singh, 2005), information systems (Bhattacherjee and Sanford, 2006) and marketing (Zhao et al., 2013). In the area of marketing, according to the ELM, the attitude changes via the central route when the customer's motivation and ability to assess the 'attitude object' are relatively high, and therefore the customer evaluates the related information. In contrast, when motivations or assessment skills are relatively low, the attitude change occurs through the peripheral route (Zhao et al., 2013). Moreover, the ELM theory is widely used in the field of advertising to present highly persuasive advertisements such as giving informative message content to people about a brand (Morris et al., 2005).

4.4.2 Rationale for Choosing the ELM

The current research draws on the ELM to explain influential factors of customer engagement in the online brand community. The conceptual model based on the ELM will be used to test a nomological validity of the newly developed CE scale. In addition, the current research proposes the conceptual model as a customer engagement model to have a better understanding of customer behaviour in the online brand community.

A primary objective of the studies regarding online communities has been how to motivate customers to engage (Bateman et al., 2011; Brodie et al., 2013; Ray et al., 2014). Engagement in the online community has been studied as a critical factor for success of an online community (Wirtz et al., 2013). The conceptual framework based on the ELM considers customer engagement as a persuasion process that shows how customers change their behaviour. Despite the limitations of prior models, this theory was specifically adopted for three main reasons: (1) it is directly related to influence processes and their impact on customer engagement behaviour (Bhattacherjee and Sanford, 2006; Yang et al., 2006), (2) in contrast to TAM and TPB, it is possible to include external factors of interest to the current research to examine their relationships with the customer engagement construct (Legris et al., 2003), (3) unlike TAM and TPB, the theory of ELM has been tested and validated in the context of online communities.

4.5 Proposed Model

This study's conceptual framework (Figure 10) explicates the motivations and consequences of customer engagement in the online brand community. This model includes Brand Community Identification, Brand Identification, Information Quality and Group Norm as antecedents, which are categorised into two groups: peripheral and central cues. Customer Satisfaction and Brand Loyalty are suggested as consequences of the customer engagement, as discussed in more detail below.

Figure 10 The Proposed Model of the Current Research: BCI = Brand Community Identification, BI = Brand Identification, IQ = Information Quality, GN = Group Norm, CE = Customer Engagement, CS = Customer Satisfaction, BL = Brand Loyalty
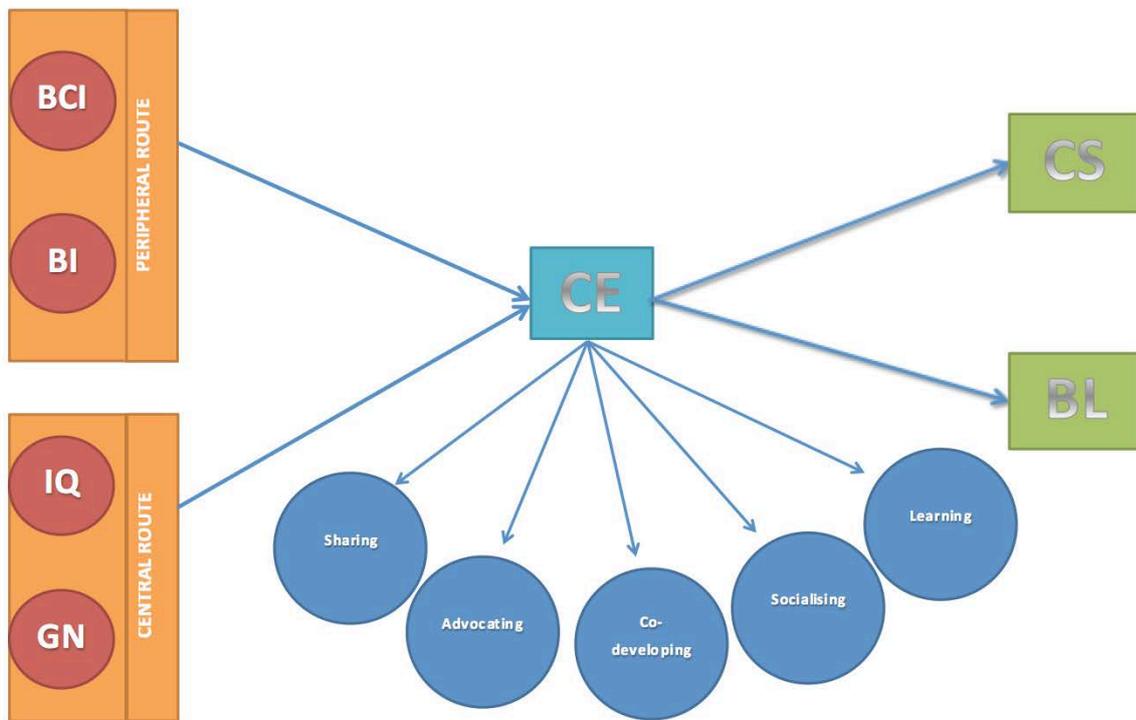
4.5.1 Central Cues

INFORMATION QUALITY

The online brand community (OBC) enables customers to engage in communication and interactive learning. Customers join an OBC to access high-quality of information regarding a brand and services (Wirtz et al., 2013). The provided information in the OBC helps customers through the decision-making process. Therefore, the quality of information is important for OBC members, and Dholakia et al. (2009) suggest information quality as a key factor that customers define as a perceived benefit. It is important to mention that high quality of information facilitates the learning process of OBC's members and Hung et al. (2011) highlight the key role of OBC in providing credibility of information provided by both community members and community managers. In addition, Porter and Donthu (2008) emphasise that high quality information encourages customers to communicate and eases interactive learning. Thus, high quality of information in OBC increases the interaction and communication and it can be considered as one of the important drivers of customer engagement. It is crucial to clarify what the dimensions of high quality information are. Two views on high quality information are discussed as follows.

Nelson et al. (2005) suggest the following dimensions of information quality: accuracy, completeness, currency and format, while Zhou (2012) suggests relevancy and sufficiency instead of completeness and format. In line with Zhou (2012), the current research adopt the proposed dimensions of information quality as the author conceptualise the concept in online community. Accuracy, sufficiency, relevancy and currency are fours dimensions of information quality. Customers perceive high quality information in online brand community that the provided information has the mentioned dimensions.

The significant relationship between information quality and initial trust in mobile banking (Zhou, 2012), online shopping (Yang et al., 2006) and learning in problem solving in online communities (Dholakia et al., 2009) and membership satisfaction in online communities (Lin, 2008) have been examined. In addition, Wirtz et al. (2013) categorise information quality as a functional driver of customer engagement in OBC, and Lin (2008) suggests it as a key success of an online community and positions it as a system characteristic. In addition, Zhou (2012) and Yang et al. (2006) have

reported information quality as a central cue. The current research suggests that information quality is an antecedent of customer engagement in the online brand community.

H1: Higher levels of information quality lead to greater levels of engagement in the online brand community.

GROUP NORM

Internalisation is one of the processes of social influence that is operationalised as a group norm. Several studies have investigated the impact of group norm as one of the key social influence variables on attitude and behaviour of group members. Their research shows that members of a group construct a common behavioural frame or, as Knippenberg (2008) suggests, "a shared judgmental frame of reference" that guides members' behaviours and judgement. Thus, group norm refers to the commitment of group members to the shared goals and values that are understood during socialisation with other members of the group. Actually, Dholakia et al. (2004) identify other ways rather than socialisation through which the group norm becomes known to group members. One happens when new members actively seek out the conventions and goals through participation in the online community. The other possibility is when an individual learns the group's goals beforehand and then joins the group because s/he finds out that the group's values are similar to his/her own values. Postmes et al. (2000) state that group norms are influential when they are volitionally accepted by members of the online community.

As discussed, the group norm affects the attitude and consequent behaviour of group members. It is quite relevant to online communities, and several researchers have investigated its role within the online context. For example, the significant relationship between group norm and desire to participate (Dholakia et al., 2004; Shen et al., 2009) and product-attitude change (Kate, 2010) have been studied. Additionally, group norm influences through the central route have also been studied, as Knippenberg (2008) and Hamilton (2004) suggest that norm-induced influence is based on "the systematic processing of norm-representing communications". The systematic processing occurs through the central route. Thus, the current study suggests group norm as an antecedent of customer engagement in the online brand community.

H2: Stronger group norms lead to greater levels of engagement in the online brand community.

4.5.2 Peripheral Cues

BRAND COMMUNITY IDENTIFICATION

Algesheimer et al. (2005) characterise 'brand community identification' as the strength of relationship between customers and the brand community, whereby an individual construes him/herself to be a member of the brand community. This collective identity is what Dholakia et al. (2004) have used in their study as the feeling of 'belonging' to the community. Social identity theory explains how individuals identify themselves with a valued group such as a brand community. The theory of social identity has been widely used to study the attachment of an individual to a group, organisation and brand. Social identity includes two components: affective (a sense of attachment and emotional involvement) and cognitive (the sense of self-awareness that an individual forms in a community). The cognitive component is related to when individuals see similarities with other members of the brand community and non-similarities with those who are not community members. The affective component has been characterised as 'kinship between members' in brand community research (McAlexander and Schouten, 1998). Regarding the affective component, a sense of emotional involvement (brand community) is included in identification with the group (brand community).

Some studies conceptualise identification with only one component, cognitive (Ashforth et al., while other studies include the affective and evaluative components as well (Dholakia et al., 2004; Lam et al., 2010). Evaluative component is defined as "the evaluation of self-worth on the basis of belonging to the community" (Dholakia et al., 2004). In response to the first group, Epstein (1980) states that "self-related attitude is closely associated with the emotion" and the important aspect of relationship marketing is about emotion (Bagozzi, 1995). However, reviewing the second group of studies shows that there is no significant relationship between the evaluative component and participation in the online community. Therefore, in line with the research by Algesheimer et al. (2005), this study conceptualises identification with both cognitive and affective components.

There are many positive consequences for customers in identifying with a community; for example, as mentioned in the study of Muniz and O'Guinn (2001), the members of an Apple Mac community help each other by sharing information about increasing the performance of their computers. Furthermore, according to social influence, an individual identifies with a group in order to maintain a satisfying self-defining relationship to the other (Shen et al., 2009).

Therefore, customers who are interested in establishing a relationship with other consumers to gain such benefits are more likely to engage in a community.

The significant relationships of brand community identification with desire to participate (Dholakia et al., 2004) and offline-community engagement (Algesheimer et al., 2005) are examined. From the Elaboration Likelihood Model perspective, shared characteristics such as social identity always play the role of peripheral cues (Fleming & Petty, 2008), and this is similar to a study by Hamilton (2004) that considers identification as a peripheral cue. Therefore, the current research suggests that the community identification construct acts as an antecedent of customer engagement in the online brand community.

H3: Stronger identification with community leads to higher levels of engagement in the online brand community.

IDENTIFICATION WITH BRAND

Similar to the previous discussion about identification with a community, the other aspect of identification could be with the brand. Lam et al. (2010: 130) define Customer Brand Identification (CBI) as "a customer's psychological state of perceiving, feeling and valuing his or her belongingness with the brand". Carlson et al. (2008) examine the relationship between brand identification and brand commitment and Lam et al. (2010) explore its association with the resistance to switching to another brand. As explained about the relationship between identification with a community and engagement, the following hypothesis is suggested regarding the relationship between the identification with brand and engagement:

H4: Stronger identification with a brand leads to higher levels of engagement in the online brand community.

4.5.3 Consequences of Customer Engagement

Drawing from social influence theory together with the ideas from marketing studies of online communities, four potential antecedents were introduced. These four antecedents were placed into two groups: peripheral and central cues. The four hypotheses suggested that there are positive relationships between these antecedents and customer engagement. However, the current research is interested in examining the relationship between customer engagement and potential consequences. As mentioned regarding the importance of customer engagement,

several studies have predicted the influence of the construct on some valuable brand performance outcomes. The consequences of customer engagement can be categorised into two groups: customer outcomes and brand outcomes. Respectively, the current research examines the relationship between customer engagement and customer satisfaction and brand loyalty.

CUSTOMER SATISFACTION

The current research examines customer satisfaction as one of the important consequences of customer engagement. The concept of 'customer satisfaction' is one of the main areas in the study of e-marketing. It is crucial for e-businesses to be informed about customers' needs and expectations. Customer satisfaction is an important area to be studied, because it is one of the key roles by which to measure the success of e-marketing (McKinney et al., 2002). In addition, it is an important factor for companies in today's Internet marketplace to increase their market shares and also improve their sales growth (Lecinksi, 2012). Oliver (1997: 462) defines the concept of customer satisfaction as "the summary psychological state resulting when the emotion surrounding disconfirmed expectations is coupled with a customer's prior feelings about the customer experience" (Oliver, 1997). From this point of view, satisfaction may be best understood as "an ongoing evaluation of the surprise inherent in a product acquisition and/or consumption experience". In addition, McKinney et al. (2002: 299) explain disconfirmation as "customer subjective judgments resulting from comparing their expectations and their perceptions of performance received". Therefore, according to this definition, satisfaction is a function of the expectations of the customer and the extent to which those are met. It is similar to what Oliver (1980), LaBarbera and Mazursky (2013) and Shukla (2010) have found in their studies on the measurement of customer satisfaction.

CUSTOMER SATISFACTION: RELATIONSHIP MARKETING PERSPECTIVE

This section examines customer satisfaction from relationship marketing perspective. Gronroos (2000: 87) defines satisfaction at relationship level as

"Customer's cognitive and affective evaluation based on the personal experience across all service episodes within the relationship"

In addition, Buttle (2015) defines customer satisfaction and dissatisfaction as a pleasurable and unpleasurable fulfilment response. In line with the definition of Gronroos (2000), Buttle (2015) suggests that satisfaction is directly related to the customer's experiences. The model of

expectation-disconfirmation of customer satisfaction suggest that customers are satisfied when they think that their expectations have been met. In addition, it is important to note that if perception exceeds expectation, it leads to positive disconfirmation. Therefore, understanding customer expectation is a crucial factor to satisfy them. In the context of online brand community, gaining knowledge and interactions with others are considered as two important customers' expectations (Wirtz et al., 2013). Customers who believe that these expectations have been met or exceeded are more likely to be satisfied with the OBC (Woisetschlager et al., 2008).

Garbarino and Johnson (1999) suggest satisfaction, trust and commitment as essential ingredients for successful long-term relationships and Ulaga and Eggert (2006) consider them as dimensions of relationship quality. Hennig-Thurau and Klee (1997) examine the association between relationship quality perceived by customers and customers' retention. Customer engagement as a positive strategy in order to improve customer retention discussed in the section 2.2.2.4. In line with Hollebeek (2011), the current research suggests that there is a positive relationship between customer engagement and customer satisfaction that is explained in the next section.

In addition, CRM improves business performance and Buttle (2015) explains the rational for that (As mentioned in section 2.2.2.2). The author highlights the important role of CRM to increase customer satisfaction and also brand loyalty. Companies have a better understanding of their customers by having their insights. Customers insight helps them to create better customer experiences and values to meet their expectations and needs. Strong evidence provided by the model of "satisfaction-profit chain" suggested by Anderson and Mittal (2000) that companies deserve to enjoy profit by managing better relationship with customers and creating satisfaction for them. The American Customer Satisfaction Index (ACSI) model which was introduced in 1994, examines the relationship between customer satisfaction and potential antecedents and consequences. The results provide strong evidence to support correlation between Customer Satisfaction Index (CSI) and corporate profit performance (Yeung and Ennew, 2001).

From relationship marketing perspective, customer engagement is a concept beyond merely buying the products. Buttle (2015) states that the customers who are engaged act as "corporate citizenship". Online brand communities enable managers to build relationship with customers by providing an interactive environment for them to encourage them to be more engaged with

their brands. In addition, a study by Hollebeek (2011) indicates that engaged customers are more satisfied than unengaged customers. There are two different views on the relationship between customer engagement and customer satisfaction. There is a group of studies in which, customer satisfaction examined as antecedents of customer engagement and the other group of studies examine customer satisfaction as consequences of customer engagement. In the following section, the relationship between customer satisfaction and customer engagement is discussed.

CUSTOMER SATISFACTION AS AN OUTCOME

Two main groups of studies examine the relationship between customer satisfaction and customer engagement. The first group includes studies in which 'customer satisfaction' is explored as an antecedent of customer engagement (van Doorn et al., 2010; Woisetschlager et al., 2008), whilst the second, larger, body of studies adopts it as a consequence of customer engagement. Although the studies that perceive consumer satisfaction as a driver of customer engagement are limited, it is worth noting why the current research adopts customer satisfaction as its consequence. In the following text, the definitions of the construct in this group of studies are presented. Some studies have used the definition by Anderson and Fornell (1994), which is "an overall evaluation of performance, and it is based on prior experience". The other studies of this category have used the definition by Palmatier et al. (2006: 138), which is "customer's affective or emotional state toward a relationship, typically evaluated cumulatively over the history of the exchange". According to these definitions, 'satisfaction' will be gained after an experience from prior interactions. This result comes from these parts: "based on prior experience" and "over the history of the exchange", which are highlighted from the mentioned definitions.

In the current research, the concept of customer satisfaction in the online brand community is built up based on the definition by Oliver (1997). Thus, consumer satisfaction, which is considered as a result of engagement, is gained when the online brand community meets the customer's expectations.

BRAND LOYALTY

In addition to customer satisfaction, brand loyalty is one of the most frequently addressed topics in marketing research and it is viewed as a crucial factor for long-term business success (Nam et al., 2011). Engel et al. (2005) define brand loyalty as "the preferential, attitudinal and behavioural response toward one or more brands in a product category expressed over a period of time by a customer". In the same vein, according to McKercher et al. (2012: 34), brand loyalty is:

"a deeply held commitment to re-buy or patronize a preferred product/service consistently in the future, thereby causing repetitive same-brand or same brand-set purchasing, despite situational influences and marketing efforts having the potential to cause switching behaviour".

Hoyer and MacInnis (2007: 30) suggest that brand loyalty occurs when "customers make a conscious evaluation that a brand or service satisfies their needs to a greater extent than others do and decide to buy the same brand repeatedly for the reason". Therefore, brand loyalty has a key role in marketing strategies. Having said that, loyalty is a complex concept and it may not be easy to achieve in some sectors (McKercher et al., 2012).

There are two types of loyalty, attitudinal loyalty and behavioural loyalty. According to Anderson and Srinivasan (2003), behavioural loyalty refers to "frequency of repeat purchase" while attitudinal loyalty refers to "the psychological commitment that a customer makes in the purchase act, such as intentions to purchase". In order to measure loyalty, both perspectives – attitudinal and behavioural – should be considered. However, Anderson and Srinivasan (2003) define e-loyalty as "the consumer's favourable attitude toward an electronic business resulting in repeat buying behaviour". Building loyalty in an online setting, as well as offline, is critical for companies because brand loyalty has valuable advantages such as reducing marketing costs and threats from other competitors (Srinivasan et al., 2002).

BRAND LOYALTY: RELATIONSHIP MARKETING PERSPECTIVE

As mentioned, CRM improves business performance by driving up brand loyalty. Baran and Galka (2013) believe that brand loyalty is the most fundamental CRM process. From relationship marketing perspective, it is important to highlight four forms of loyalty. According to the behavioural and attitudinal loyalty, the four specific conditions need to be considered. Dick and Basu (1994) introduce Two-dimensional model of brand loyalty as illustrated in Figure 11.

Figure 11 Two-dimensional Model of Brand Loyalty (adopted from Dick and Basu, 1994)

'Loyals', 'latent loyalty', Spurious loyalty' and 'No loyalty' are four different dimensions identified based on the level of repeat purchase (behavioural loyalty) and relative attitude. Customers with the high level of repeat purchase and relative attitude called as 'Loyals' that are the most preferred condition. Baran and Galka (2013) emphasise on this dimension as 'true loyalty' which is as same as affective loyalty. Spurious loyalty refers to the customers with the high level of behavioural loyalty and low attitudinal loyalty. Buttle (2015) believes that the reason behind the high level of behavioural loyalty might be related to high switching cost or perceived indifferences among the brands. Dick and Basu (1994) highlight the importance of social influence to form this dimension of loyalty. Marketers are seriously concern about the customers which are considered as 'Latent loyalty'. This type of loyalty refers to those customers with the high level of attitudinal loyalty and low behavioural loyalty. Finally, combination of low relative attitude and low repeat purchase leads to 'no loyalty' dimension.

It is important to note that companies are more attracted to the behavioural aspect of loyalty as it leads to increase in sale and Buttle (2015) suggest that profits resulted from behavioural loyalty not customers' attitudes. Although the relationship between attitude and behaviour is not clearly explained in the model of Dick and Basu (1994), it is accepted that there is no causal relationship between attitude and behaviour (Buttle, 2015). In fact, attitude and behaviour influence each other in a circular relationship.

IMPORTANCE OF RELATIONSHIP-BASED DEFINITION OF LOYALTY

From relationship marketing perspective, loyalty is defined as the "relationship between relative attitude and repeat purchase" (Dick and Basu, 1994). There is an important advantage of defining loyalty based on attitude-behaviour relationship. Dick and Basu (1994) state that the viewing

loyalty from relationship perspective enables researchers to examine the construct in a causal relationship. It leads to identify the antecedents of brand loyalty and the potential consequences of the phenomenon.

In general, there are three main CRM goals that CRM strategies follow them simultaneously: Increasing customer satisfaction, enhancing loyalty and growing revenue (Buttle, 2015). As mentioned, customer engagement as a positive strategy pursue these goals. In the following section, the relationship between customer engagement as an antecedent of brand loyalty is discussed.

BRAND LOYALTY AS AN OUTCOME

Hollebeek (2011a) suggests that there is a relationship between customer engagement and the customer's brand-related behaviours such as brand loyalty, whilst a study by Woisetschlager et al. (2008) examines customer satisfaction as an outcome of customer engagement. It can be explained that, if engaging with a community leads to perceived value, consequently customer satisfaction and loyalty will be increased. The investigation of the online brand community in Brodie et al.'s (2013) study shows that customers express their loyalty and satisfaction to a brand by recommending this preferred brand to others.

In this study, it is expected that engagement in the online brand community leads to stronger brand loyalty and higher levels of customer satisfaction with the community. As different studies have provided evidence that membership of a community influences continuing purchase and use of the brand (Algesheimer et al., 2005), therefore, the current research suggests customer satisfaction and brand loyalty as potential consequences of customer engagement.

H7: Greater levels of engagement have positive effects on brand loyalty.

H8: Greater levels of engagement have positive effects on customer satisfaction.

Table 10 Summary of Hypotheses

Hypotheses	Content
H1: IQ → CE	Higher levels of information quality lead to greater levels of engagement regarding the online brand community.
H2: GN → CE	Stronger group norms lead to greater levels of engagement regarding the online brand community.
H3: CI → CE	Stronger identification with the community leads to higher levels of engagement in the online brand community.
H4: BI → CE	Stronger identification with the brand leads to higher levels of engagement in the online brand community.
H5: CE → BL	Greater levels of engagement have positive effects on brand loyalty.
H6: CE → CS	Greater levels of engagement have positive effects on customer satisfaction.

4.6 Summary

This chapter has provided a conceptual model in order to examine the customer engagement scale within a nomological net of focal relationships. The focal constructs as antecedents of customer engagement have been placed into two groups, central and peripheral cues, based on the Elaboration Likelihood Model. The conceptual model included two constructs as potential consequences. Evidence from empirical and theoretical studies was provided for the developed research hypotheses. Before testing the research hypotheses suggested in this chapter, the methodology adopted for the current research is presented in Chapter Five.

Chapter Five

Research Methodology

5.1 Introduction

The previous chapters described the conceptual model of the current research, which is based on the ELM. The proposed model of customer engagement in online brand communities including the group norm, information quality, brand identification and brand community identification as antecedents and brand loyalty and customer satisfaction as consequences was presented. The previous chapters also addressed the first objective, **"To critically assess existing conceptualisations of customer engagement and the underlying theoretical foundation of the CE construct"**, and the second objective, **"To develop a customer engagement model in online brand communities based on the Elaboration Likelihood Model"**, of the current research, as presented in Section 1.4.

This chapter aims to explain the methodology employed for the current research, which has been selected in order to achieve the third and fourth research objectives, "**to develop a reliable and valid measurement scale of customer engagement**" and "**to develop a theoretically grounded definition and understanding of underlying dimensions of the customer engagement construct**". After this explanation, the research design and the rationale behind it are discussed. They are followed by a description of the scale development process. There are three phases involved, and each addresses different issues relating to the scale development process in order to validate the construct's scale. The first phase contains: (a) the definition of the focal construct, (b) an initial item pool generation, and (c) content validity assessment. Phases two and three each contain one study. In addition, this chapter provides a discussion of sampling, questionnaire design process and quantitative data analyses techniques used in the two studies. First of all, it is worth discussing different research approaches, prior to rationalisation of the adopted approach for the current research.

5.2 Research Paradigm Consideration

Philips (1987: 27) notes that "a particular paradigm acted as a framework that determined the key concepts and methods, the problems that were significant, and so on". There is an agreement among most philosophers that research could be potentially conducted using different frameworks, but there is considerable discussion on the level of trust and credibility regarding the knowledge produced using various paradigms (Neuman, 2011). However, as Saunders et al. (2003: 205) state, "a scientist will normally work within a theoretical framework – a paradigm – that determines the problems that are regarded as crucial, the way these problems to be conceptualised, the appropriate methods of inquiry, the relevant standards of judgment, etc.". Paradigms have three aspects: ontology, epistemology and methodology.

Ontology – "an area of philosophy that deals with the nature of being, or what exists; the area of philosophy that asks what reality is and what the fundamental categories of reality are" (Neuman, 2011: 111).

Epistemology – "a theory of knowledge that deals with the nature of knowledge, its scope, and provides a set of criteria for evaluating knowledge claims and establishing whether such claims are warranted" (Khazanchi and Munkvold, 2003: 2).

Methodology – the procedure of generating knowledge (Kothari, 2004).

5.2.1 IS Research Paradigms

The three main research paradigms are presented in this section and then the appropriate research paradigms for the current research are explained. The current research can be classified as marketing or information systems research. From the point of view of any information systems research, the assumptions including ontology, epistemology and methodology are discussed. These assumptions explain the researchers' roles as well as framing the nature of their studies. The three research paradigms that have been referred to information systems studies: positivist, interpretive and critical research.

5.2.1.1 Positivist Paradigm

The positivist approach is the oldest and the most widely used approach in social science, which assumes that the positivist approach is the same as when used in science (Neuman, 2011). Researchers using the positivist approach prefer "precise quantitative data and often use

experiments, survey, and statistics" (Oates, 2006). They use data which are collected from measurements in order to test hypotheses. In this approach, it is assumed that the purpose of social science is to find the universal laws. This approach has also emerged in information systems research (Oates, 2006). Klein and Myers (1999: 69) define the positivist paradigm in IS research as below:

"Generally speaking, IS research can be classified as positivist if there is evidence of formal propositions, quantifiable measures of variables, hypothesis testing, and the drawing of inferences about a phenomenon from a representative sample to a stated population".

Ontologically speaking, "a belief that only observable things are real and worthy of study" is assumed as a positivist position and epistemologically positivists assume that "any knowledge claim or scientific explanation must be arrived at by means of sensory experience" (Neuman, 2011) and, from the methodological perspective, the main techniques of the positivist paradigm are reductionism, repeatability and refutation (Oates, 2006).

5.2.1.2 Interpretive Paradigm

A large body of research in information systems is based on the interpretive approach as well as on positivism. Interpretive research concerns how people interact with each other. In general, this approach is defined by Neuman (2011: 118) as:

"the systematic analysis of socially meaningful action through the direct detailed observation of people in natural settings in order to arrive at understandings and interpretations of how people create and maintain their social worlds".

Information systems research adopts the interpretive approach to have a better understanding of "human thought and action in [a] social organisational context" (Khazanchi and Munkvold, 2003). The aim of applying interpretive methods in information systems is to produce "an understanding of the context of the information system, and the process whereby the information system influences and is influenced by the context" (Oates, 2006: 4). Thus, Klein and Myers (1999: 69) define the interpretive research in IS as follows:

"IS research can be classified as interpretive if it is assumed that our knowledge of reality is gained only through social constructions such as language, consciousness, shared meanings, documents, tools, and other artefacts. Interpretive research does not predefine dependent and independent variables, but focuses on the complexity of human sense making as situation emerges".

In contrast to the positivist paradigm, the interpretive paradigm and the critical paradigm include the epistemological notion that "objective observation is not possible" (Oates, 2006).

Additionally, the interpretive approach includes the fact that social reality depends on how the observer interprets it.

5.2.1.3 Critical Paradigm

The third important approach in the social sciences, which includes the fact that there are multiple levels of reality, is the critical paradigm. In contrast to interpretive and positivist paradigms, "the aim of research from this paradigm perspective is not to study the social world but to change it" (Neuman, 2011). The critical paradigm from the IS perspective can be seen as:

"IS research can be classified as critical if the main task is seen as being one of social critique, whereby the restrictive and alienating conditions of the status quo are brought to light. Critical research seeks to be emancipatory in that it aims to help eliminate the causes of unwarranted alienation and domination and thereby enhance the opportunities for realising human potential" (Klein and Myers, 1999: 69).

In contrast to positivism, an ontological basis of critical research adopts relativism, "the world is not a universe of facts that exists independently of the observer" (Neuman, 2011). There is similarity between critical and interpretive paradigms in terms of epistemological perspectives. In this regard, Neuman (2011) states that "objective observation is impossible and that all knowledge is generated or justified in the context of the researcher's framework and assumptions."

5.2.2 The Choice of Research Paradigm

Having examined the three major approaches to information systems research, the adopted paradigm for the current research is explained in this section. As all three approaches are empirical and systematic and there is no one right approach for conducting research, the appropriate approach for this study is adopted with an open mind. In this regard, research paradigm adoption depends on the research objectives mentioned in Chapter One. In order to achieve the considered objectives, the most appropriate paradigm is selected.

The research question outlined in Section 1.2 suggests that the appropriate philosophical position for the current research is positivism. Specifically, the most important aim of the current research is to develop a reliable and valid measure of the customer engagement construct. Following the scale development literature (Churchill, 1979; Devellis, 2012; Netemeyer et al.,

2003), empirical data are used to analyse the scale development process in order to develop a reliable and valid scale. From the ontological perspective, the current research is anchored with the aim of uncovering reality regarding customer engagement in the online brand community. In this regard, critical and interpretive research adopt relativism in terms of ontological basis; therefore, the choice of positivist paradigm is the correct decision for conducting this study. However, the current research aims to find a generalisable explanation of a truth that is in line with the epistemological position of the positivist paradigm. Yet, as both the critical and interpretive research methods include the epistemological notion of how the social world is from the perspective of a participant, the positivist approach is appropriate because it leads to more generalisable findings, which is one of the main objectives of the current research. Table 11 illustrates a comparative overview of these different approaches in IS research as well as the current research approach.

Table 11 A Comparative Overview of the Key Rhetoric of Major Information Systems Research Paradigms (adapted from Khazanchi and Munkvold, 2003)

	Positivist	Interpretive	Critical research	This research
Ontological Assumptions	"Naïve Realism" in which an understandable reality is assumed to exist, driven by immutable natural laws. True nature of reality can only be obtained by testing theories about actual objects, processes or structures in the real worlds.	Relativism: the social world is produced and reinforced by humans through their action and interaction	Historical realist: social reality is historically constituted; human beings, organisations, and societies are not confined to existing in a particular state	*Researcher believes in objective reality: it is value free and reality is empirically evident. Aims to discover laws.*
Epistemological Assumptions	• Verification of hypothesis through rigorous empirical testing • Search for universal laws or principles • Tight coupling among explaining, prediction and control.	• Understanding of the social world from participants' perspective, through interpretation of their meanings and actions • Researchers' prior assumptions, beliefs, values, and interests always intervene to shape their investigations	• Knowledge is grounded in social and historical practices • Knowledge is generated and justified by a critical evaluation of social systems in the context of researchers' theoretical framework adopted to conduct research • Generalisations point to regularities of process rather than cross-sectional differences	• *Proposes hypothesis and should be empirically tested to verify.* • *Study to find out the existed laws and principles* • *Researcher believes in deductive reasoning.* • *Develop a reliable and valid CE scale*
Relationship between Theory and Practice	• It is possible to discover universal laws that govern the external world.	• Generative mechanisms identified for phenomena in the social sciences should be viewed as 'tendencies', which are valuable in explanations of past data but not wholly predictive for future situations.	• Generalisation in critical research focuses on the "totality" of relationships • There can be no theory-independent collection and interpretation of evidence to conclusively prove or disprove a theory	• *The research goal is to investigate the universal causal laws in order to obtain scientific explanations of human behaviour.*
Role of the Researcher	• Objective, impartial observer, passive, value-neutral	• Interactive; the researcher interacts with the human subjects of the enquiry, changing the perceptions of both parties	• Transformative; initiating change in social relations and practices, helping to eliminate the bases of alienation and domination	• *Impartial observer and passive*

5.3 Research Methodology Consideration

In the previous section, different theoretical paradigms were outlined and the appropriate one was justified for the current research. According to the research objectives, the positivist paradigm was selected as the appropriate paradigm.

Although 'research method', 'research methodology' and 'research design' are used as the way to conduct a study, it is important to highlight the differences in these terms. Saunders et al. (2003) define research methods (sometimes called techniques) as:

> "*The methods that researchers use in performing research operations*"

Based on the above definition, research method is considered in the different stages of conducting research: (1) collection of data; (2) statistical technique to analyse collected data and (3) evaluation of the result's accuracy. Research method is also similar to research design, which is defined by Churchill (1999) as plan of study in order to collect and analyse the data. However, research methodology, which is also called research approach, is "a way to systematically solve the research problem". It may be understood as a "science of studying how research is done scientifically" (Kothari, 2004). Therefore, research methodology has a wider scope than research method and includes the logic behind the selection of a particular research method and explanation of why other techniques are not selected.

This section is followed by an explanation of the research approach and then the research method and finally the research design adopted for the current research.

5.3.1 The Choice of Research Approach

The research process began by adopting positivism as the research paradigm, and the next level is the research approach (see Figure 10). Some authors divide the research into two distinct groups: qualitative and quantitative (for example, Saunders et al., 2003). There are also some authors who divide the research approach into deductive and inductive (for example, Neuman, 2011). In response to the first group, a quantitative approach is adopted as the research methodology for the current research. Table 12 shows the comparison between these approaches and the author's view. The reasons for selecting this approach are categorised in the four following groups: (Neuman, 2011):

- **Nature of the data:** the first reason for adopting a quantitative approach concerns the nature the data. The type of data in qualitative research strategies are 'soft data' such as words and images, while data in the form of numbers are used in quantitative analysis. This difference may require different data collection tools. In this regard, survey and experiment are the two main tools explained in the next section. The quantitative approach is appropriate for the current research as the required data are in the form of numbers, which is also called 'hard data'.
- **Principles about the research:** the second reason for selecting a quantitative approach is related to the paradigm adopted for the current research. The positivist paradigm mainly includes the language of variables and hypotheses, and also quantitative research relies on positivist principles. Thus, as the current research is conducted within a positivist paradigm and also we have proposed the hypotheses, the quantitative approach is appropriate.
- **Study accomplishment:** the third indicator that is different in qualitative and quantitative research is related to the study's accomplishment. The purpose of conducting qualitative research is mostly to generate new hypotheses while, in the quantitative approach, the research tries to test proposed hypotheses and show the relationship between variables. The current research has proposed the hypotheses based on the literature and aims to test them. Therefore, the current research employs the quantitative method.
- **Path of conducting research:** finally, the quantitative approach is adopted as the current research follows a linear research path. A linear research path means "research that proceeds in a clear, logical, step-by-step straight line" (Neuman, 2011), which is mainly adopted in quantitative research. According to the linear path, the research follows a straight way towards the conclusion. In much qualitative research, a 'nonlinear research path' is followed. Research that "proceeds in a cyclical, iterative, or back-and-forth pattern" (Neuman, 2011) is known as following a 'nonlinear research path'. Neither path is superior to the other but, as the current research is more similar to a linear research path, the quantitative approach is selected.

Figure 12 The Different Levels of The Current Research Approach (adapted from Saunders et al., 2011)
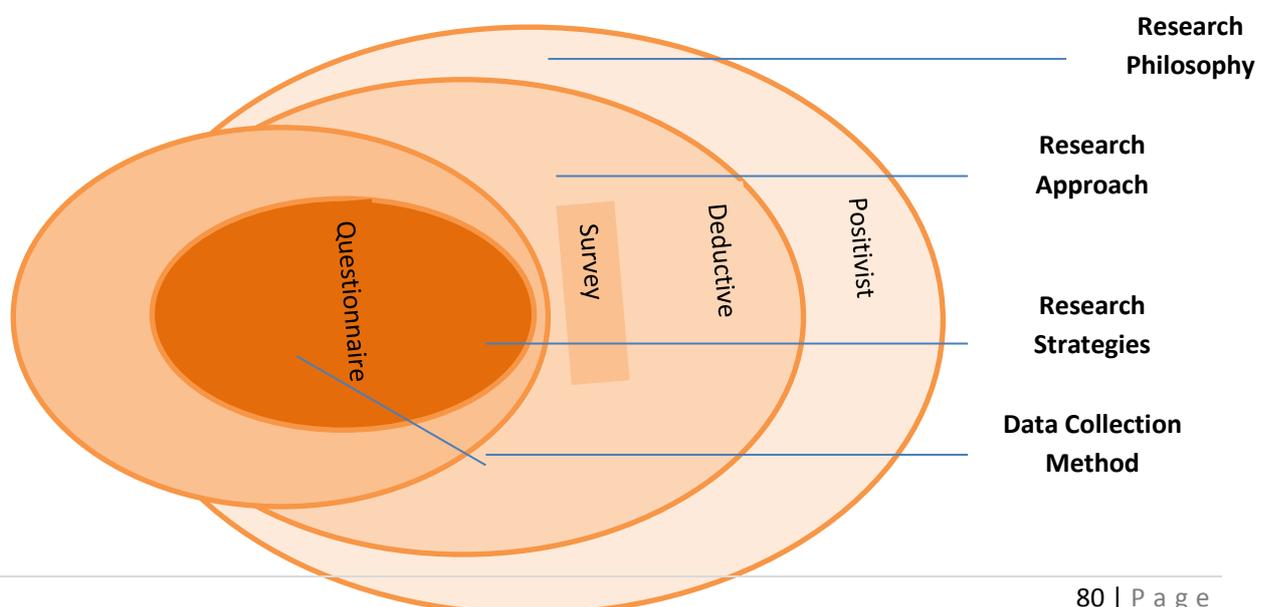
Table 12 Comparison between Quantitative and Qualitative Research Design (adopted from Schiffman and Kanuk, 2007; Neuman, 2011)

	Qualitative Research	Quantitative Research	This Research
Study Purpose	Researchers test hypotheses that are stated at the beginning.	Researchers capture and discover meaning once they become immersed in the data.	*Aims to develop a reliable and valid construct scale and to test the model and the proposed hypotheses based on the model that is developed from the theories.*
Types of Questions	Open-ended, unstructured questions and further probing by the interviewer. Projective techniques include disguised questions where the respondents do not know the true purpose of the questions and are asked to freely respond to such as words or pictures.	Close-ended questions with predefined possible responses and open-ended questions that have to be coded numerically. Most questionnaires include attitude scales and, generally, the questions are not disguised.	*Online questionnaire with mostly close-ended questions. In order to measure the constructs in the proposed model, the attitude scale is used.*
Data Collection Method	In-depth interviews and focus groups are used.	Questionnaires are used in surveys conducted in person, by phone or mail, or online. Observation of respondents is also used. Experimentation is used to test cause-and-effect relationships.	*Online survey which is uploaded on the AMT website to be accessed by a wide range of customers.*
Concepts	Concepts are in the form of themes, motifs, generalisations, and taxonomies.	Concepts are in the form of distinct variables.	*Distinct independent and dependent variables are used to develop the model.*
Measures	Measures are created in an ad hoc manner and are often specific to the individual setting or researcher.	Measures are systematically created before data collection and are standardised.	*Measures are standardised and created based on the prior research and adopted from the in-depth literature review. New measures are developed for the customer engagement construct.*
Research Procedure	Research procedures are particular, and replication is very rare.	Procedures are standard, and replication is frequent.	*A two-stage research design was conducted. These two stages include three phases and two independent studies.*
Data Type	Data are in the form of words and images from documents, observations, and transcripts.	Data are in the form of numbers from the precise measurement.	*The collected data are coded and entered to the database. Numbers are assigned to the options of each question and therefore the collected data are in the form of numbers.*

Theory	Theory can be causal or non-causal and is often inductive.	Theory is largely causal and is inductive.	*The inductive research approach is adopted and theories are causal.*
Sampling Methods	Small, nonprobability samples; the findings are generally not representative of the universe under study.	Large, probability samples. Providing that the data collection instruments are valid and reliable, the result can be viewed as representative of the universe.	*The objective of this research is scale development and initial validation for the proposed model, so a convenience non-probability sampling technique was adopted.*
Data Analysis	Analysis proceeds by extracting themes and generalisations from evidence and organising data to present a coherent, consistent picture.	Analysis proceeds by using statistics, tables, or charts and discussing how what they show relates to hypotheses.	*The collected data are used to test the validity and reliability of measures and show the relationship between variables and test the proposed hypotheses. Exploratory Factor Analysis and Confirmatory Factor Analysis were used.*

In response to the second categorisation, the current research adopts the deductive approach. Deductive approach or 'testing theory' is the dominant approach among studies in the natural sciences, and is also widely adopted in information systems research (Oates, 2006). Robson (2011) suggests four sequential stages for conducting deductive research, which is in line with the stages of the current research:

- **Deducing hypotheses from the theory:** the current research developed a conceptual model to examine the relationship between the customer engagement construct and potential antecedents and consequences. Drawing from social influence theory together with ideas from marketing studies of customer behaviour, the research hypotheses were proposed. The objective of developing the hypotheses is to provide the evidence for nomological validity of the newly developed customer engagement scale.
- **Expressing the hypotheses in operational terms:** item scales are adopted from the prior studies in order to measure the constructs of the proposed model. Importantly, the measures of the customer engagement are developed in the current research.
- **Examining the specific outcome of the inquiry:** quantitative data analysis is used in order to analyse the data. The current research employs numerous Exploratory Factor Analyses and Confirmatory Factor Analyses to test the proposed model as well as the construct's validity.
- **If necessary, modifying the theory in the light of findings:** the current research aims to shed light on customer behaviour in the online brand community.

By contrast, the inductive approach or 'building theory' aims to have a better understanding of the nature of a problem. It is concerned with the way that humans interpret the social world

rather than the cause-and-effect between variables. And, by analysing the collected data mainly through observation and interview, this approach may lead the researcher to formulate a theory. It is important to mention that combined approaches may be adopted in a study – whilst this is not always a perfect choice, it is often advantageous to do so (Saunders et al., 2003).

5.3.2 The Adoption of a Research Strategy

Although some strategies are more associated with a specific research approach, the choice of an appropriate research strategy is based on the research objectives and research questions. In this section, experiment and survey as the research strategies that are associated with the deductive approach are explained. Then the appropriate strategy, based on the objectives of the current research, is discussed.

5.3.2.1 Experiment

This classical form of research is widely used in the natural sciences and is also the popular approach in much social sciences research, particularly psychology study. Oates (2006: 128) defines the experiment approach as:

"*a particular kind of research strategy that aims to isolate cause and effect by manipulation of what is thought to be causal, or independent, variable and measurement of its effect on the dependent variables*".

Researchers employ this strategy, which is conducted in a laboratory, to carefully observe the outcomes or even any changes in the results when a factor is added or removed. However, this strategy is used to test a hypothesis and predict the causal relationship between only two variables. Although this approach is conducted to test hypotheses, it aims to find "that one factor only causes an observed change" (Oates, 2006). This approach is not applicable to the current research, because the given research setting in the current study is complicated. Therefore, this approach is rejected.

5.3.2.2 Survey

Surveying is a popular research strategy in management research that is also widely accepted and used in information systems studies. There is a large body of studies in the IS field that conduct empirical research using the survey approach as their research strategy. In addition, this

widely used strategy is associated with the deductive approach and is used within the positivist paradigm (surveys are also used in inductive research) (Neuman, 2011). The aim of this research is to collect data in a systematic way from online brand communities. Oates (2006) states that "survey research proceeds deductively". In other words, first, the hypotheses are developed and variables are conceptualised. There are one or more questions related to each variable which are organised in a questionnaire and then it is used for data collection.

Structured observation, structured interviews and questionnaires are the data collection methods that belong to the survey strategy. Survey investigations are perceived as an appropriate strategy for the current research objectives. This approach also fits the theoretical framework of this research, which is the positivist paradigm. The data required for the current research are collected via online questionnaires.

5.3.3 Questionnaire Technique Overview

Questionnaires are an often-used method in a survey research strategy. However, they are also associated with other research strategies such as an action research, case study or design and creation (Saunders et al., 2003). As a general term, a questionnaire includes:

"*all techniques of data collection in which each person is asked to respond to the same set of questions (sometimes called items) in a predetermined order*" (Saunders et al., 2003).

According to this definition, structured interviews and questionnaires conducted by phone as well as those types of questionnaires that respondents answer with no interviewer present are all known as questionnaires. Figure 13 illustrates the different types of questionnaire:

Figure 13 Different Types of Questionnaire (adapted from Saunders et al., 2003)

Questionnaire

- Self-administered
  - Telephone questionnaire
  - Structured questionnaire
- Interview-administered
  - Delivery and collection questionnaire
  - Postal questionnaire
  - On-line questionnaire
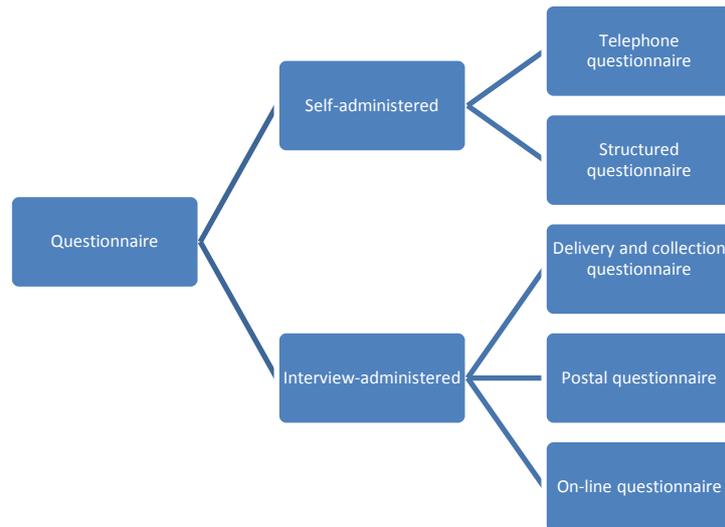
Interviewer-administered questionnaires include 'telephone questionnaires' (those where the interviewer contacts the respondents and asks the questions over the phone, which are widely used for market research) and 'structured interviews' (those where the interviewer meets the respondent face to face and asks the questions in person). Regarding the self-administered method, the questionnaires can be delivered in the following ways: 'delivery and collection' (delivered to respondents individually), 'postal questionnaire' (respondents receive the questionnaire by post and return it once it is completed) and 'on-line or web-based questionnaire' (using email or the Internet to send and receive the questionnaire). Apart from the differences in terms of questionnaire types, there are also two types of questions used in a survey, open-ended and closed-ended questions. Any answer can be given by respondents to open-ended questions while in close-ended questions respondents have to choose from a fixed set of responses.

5.3.3.1 The Choice of Questionnaire Type

The different types of questionnaire were outlined in the previous section. This section explains the reasons for choosing a survey as the research strategy, and it is followed by two sub-sections regarding the type of questionnaire selected for the current research. This is followed by a discussion on the questionnaire design issues.

Evaluation of other possible techniques and choosing the most appropriate from among them is very important when conducting research. In order to adopt the most appropriate strategy, the

objectives of the current research are considered. As it is a piece of quantitative research, experiment and survey were explained because they are the research strategies associated with this type of research.

The survey research strategy has features that are favourable for the current research. Applying this strategy enables the researcher to collect a large amount of data from a diverse range of respondents. Importantly, it is much easier to compare different types of respondents via a survey. Finally, analysis of the survey results can show associations between the variables. Apart from these relevant advantages for this study, there are some others that can be outlined (Neuman, 2011):

- Respondents can answer easily and quickly.
- Replication is easier.
- Each question's options can clarify its meaning.

Questionnaire Type

As mentioned, there are different types of questionnaire, and each one has its own advantages and disadvantages. According to the type of questions and required information, there are some recommendations when selecting the appropriate data collection method. For example, it is suggested that data should be collected via personal interview when the research is using complex and lengthy questions, whilst mail and online questionnaires are suggested as appropriate methods for simple questions (Malhotra & Birks, 2006). As the current research aims to develop a reliable and valid construct scale, a web-based, self-administered questionnaire is adopted as the most appropriate method for data collection.

In general, online surveys are a popular method of data collection in academic and market research (Evans and Mathur, 2005) and are associated with the deductive approach, as is the current research (Saunders et al., 2003). An email survey is described by Hair et al. (2010) as:

"a self-administered data collection technique in which the survey is electronically delivered to and returned from the respondents by email"

While a web-based survey refers to:

"a questionnaire placed on a website that potential respondents complete it".

Regarding the advantages of a web-based survey, Malhotra and Birks (2006) suggest that researchers have more flexibility in data collection as they can use different question formats.

Further, targeting specific customer demographics, language and brand community familiarity is easier using a web-based survey (Evans and Mathur, 2005). It is important to note that using a web-based survey allows us to incorporate respondents' answers in subsequent answers, and also that errors regarding data entry are less likely to occur compared with traditional methods (Hair et al., 2010).

Similar to other data collection techniques, the web-based questionnaire has some disadvantages. There are three areas of concern: generalisability and low response rate, privacy and verification, and design issues. Regarding the low response rate, data collection via Amazon Mechanical Turk overcomes this problem. The response rate is a product of compensation amounts and the length of task. The respondents were compensated 50 US cents to complete the survey.

The second concern is about the respondents' privacy and verification. Privacy refers to the security of the website and verification is needed to make sure that each respondent participates only once. As explained in Section 5.5.2.4, the data are collected via Amazon Mechanical Turk (AMT), which is a website that ensures respondent verification and privacy.

The third concern includes the complexity and flexibility of design. It is necessary to ensure the compatibility of different web software and hardware combinations. However, there is no need for specific software and hardware in conducting the current research. Amazon Mechanical Turk users are invited to participate in the questionnaire and therefore this issue is not relevant.

Saunders et al. (2003) suggest that close-ended questions are a suitable type of question for online surveys. There have been arguments about the merits of open versus closed survey questions (Neuman, 2011). As Oates (2006) stated, "the crucial issue is not which form is better, but which form is most appropriate for a specific situation". Therefore, the choice of question type depends on the study's objectives. The current research is concerned about 'what' rather than 'how' and thus closed questions are designed to collect the data. Saunders et al. (2003) suggest that closed questions are more appropriate for data collection when the type of data variable is behaviour.

5.3.4 Questionnaire Design Issues

There are four main issues regarding the questionnaire design, which are explained as follows:

- **Length of questionnaire:** one of the main issues, for which there is no right answer, is about how long the questionnaire should be. The format of the questionnaire and the characteristics of the respondents are two important considerations in finding the proper length. It is possible to significantly decrease the responses for a long questionnaire. However, in the current research, the AMT's features enable the author to be sure about the credibility of responses. As mentioned, the compensation amount is also an important factor that should be related to the length of questionnaire (Neuman, 2011).

- **Question order and sequences:** this issue can be seen in organisation of the overall questionnaire, question order effects, and context effects (Bryman, 2012; Neuman, 2011). *Organisation of the overall questionnaire:* generally, questions should be in an order that minimises respondent confusion. Regarding this issue, the questionnaire of the current research begins with an explanation about the survey. In addition, the only necessary background questions are asked and sensitive questions are avoided. Related questions are placed in the same section and a brief explanation is provided about each section. *Question order effect:* the question order influences respondents' answers, particularly when respondents do not have strong opinions. However, due to the nature of the questions, this issue is not relevant to the current research. This issue only occurs when the respondents' opinion about something is asked (Neuman, 2011). *Context effect:* Schuman (1992) explains this issue as "context includes more than just the influence of one question on another. It includes the effects of the interviewer, the interview setting, and indeed the historical setting". In response to this issue, the survey researcher can use a 'funnel sequence' of questions. However, the web-based questionnaire begins with general questions before introducing specific questions.

- **Layout and format**: the questionnaire of the current research was designed by the Bristol Online Survey (BOS). This service is used by about 300 companies and over 130 universities; it provides unique features by which to create easy-to-follow online questionnaires. The system provided a professional layout for the questionnaire, including the researcher's details and telephone number as well as email address for the respondents. In terms of format, the system has great features that make responding clear and unambiguous.

- **Non-response:** what makes a survey weak is the failure to obtain a valid response (Armstrong and Overton, 1977; Neuman, 2011; Saunders et al., 2003). This major problem may affect a study's results. There are five types of non-responses that need to be reduced in order to improve the quality of overall responses. These components of the non-response rate are discussed in the following narrative, and how this study improves the related issues is also discussed.

'Location rate' refers to the percentage of respondents located in the sampling frame. This issue is not relevant to the current research. 'Contact rate' shows the proportion of individuals who

are contacted. The questionnaire was uploaded on the AMT and eligible respondents chose to participate; therefore, this issue is also not relevant. 'Eligibility rate' identifies the percentage of eligible respondents who were contacted. The current research was conducted among highly trusted individuals registered with the AMT. Respondents with an approval rate of more than 95% in previous tasks were eligible to participate in the questionnaire. 'Cooperation rate' refers to the percentage of eligible individuals who participated in the questionnaire. In order to increase the cooperation rate, every respondent has been paid via the AMT paying mechanism. Finally, 'Completion rate' indicates the percentage of respondents who participated and completed the questionnaire. As only highly trusted individuals have accessed the questionnaire, the completion rate is 100%.

However, Armstrong and Overton (1977) suggested the estimation of non-response bias as an important stage that provides further confidence in the sample before being generalised to the population from which the sample is drawn. The current research used a common method of non-response estimation in which the late respondents are considered similar to non-respondents. These two groups, early and late respondents, are then subjected to t-test assessment to identify whether there is a significant difference between them.

The next section explains how the current research measures the adopted concepts (except the customer engagement construct) in the proposed model under the title of qualitative and quantitative measurements with two subtitles: measurement process and quantitative conceptualisation and operationalisation.

5.4 Qualitative and Quantitative Measurements

In both types of research, qualitative and quantitative, the researcher connects the data to ideas and concepts. The data here mean the empirical representations of a concept (Neuman, 2011). Although the measurement process is different based on the type of study – quantitative or qualitative – in both, the data and the concepts are linked through the measurement process. There are three main differences between quantitative and qualitative studies regarding the measurement process:

- **Timing:** in a quantitative study (the current research), first, the variables are derived from the prior literature. Then the data collection and analysis of data are carried out

separately. However, the data collection and measurement in a qualitative study are conducted in the same phase.

- **The data:** the second difference is related to the data themselves. The produced data in the quantitative study (the current research) are in the form of numbers. This type of data is usually generated by survey and experiments and through the deductive approach. Actually, the other research strategies can also generate numbers (Neuman, 2011). In contrast to a quantitative study, the data generated in a qualitative study are in the form of written words, symbols, sounds, action, etc. In addition, the non-standard sizes and forms of data from the observation are used in a qualitative study while a quantitative study converts the observation to the numbers.
- **Connection of data and concepts:** the ways in which that concepts and data are connected to each other differ in qualitative and quantitative studies. In the current research as a quantitative study, first, the concepts are specified and the best approach is then adopted to measure them. In contrast, although a qualitative study begins with concepts before data collection, these concepts are refined while the researcher is processing the data.

5.4.1 The Measurement Process

The measurement includes two main processes: conceptualisation and operationalisation. Babbie (2013: 136) defines the conceptualisation as "the process through which we specify what we mean when we use particular terms in research". Therefore, the exact meanings of the concepts that are used in the research are specified according to the purpose of the research through the conceptualisation process. The constructs or concepts of the current research are conceptualised by reviewing related literature in which the concepts are used with the same purposes.

After specifying the meaning of the concepts, the other process in the measurement is operationalisation in which "a conceptual definition links to a set of measurement techniques or procedure". This process includes the decision about the appropriate technique for measurement of the specified concepts. The current research adopted the prior valid items for the constructs that are used in the conceptual model. Section 5.6 presents the adoption of measurement items.

5.4.1.1 Quantitative Conceptualisation and Operationalisation

The procedure in quantitative measurement includes conceptualisation and operationalisation. In the same way that the current research is conducted, the conceptualisation and

operationalisation and then the data collection are the direct sequences. In order to produce the data in the form of numbers, the abstract construct should be linked to measurement procedures. 'Rules of correspondence' or 'auxiliary theory' is one way to make this linkage between abstract ideas and measurement procedures.

Rules of correspondence are "logical statements of the way an indicator corresponds to an abstract construct" (Neuman, 2011). According to rules of correspondence, it is acceptable to measure an individual's attitude towards something when s/he agrees verbally with a set of specific statements about it. 'How' and 'why' the constructs and indicators are connected is explained by the auxiliary theory. In the words of Carmines and Zeller (1979: 11): "the auxiliary theory specifying the relationship between concepts and indicators is equally important to social research as the substantive theory linking concepts to one another".

Figure 14 shows the measurement process for independent and dependent variables. In the current research, the three levels indicated in Figure 14 are linked together. The study follows the measurement process including conceptualisation and operationalisation for each variable. First, the constructs of the proposed model are conceptualised and they are clearly defined. By a set of indicators that have been validated in the prior studies, the constructs are operationalised in the next step. And, finally, these indicators are applied in survey questionnaires in order to collect data for testing the hypotheses. These three levels are respectively theoretical, operational and empirical.

Figure 14 Conceptualisation and Operationalisation Level (adapted from Neuman, 2011)
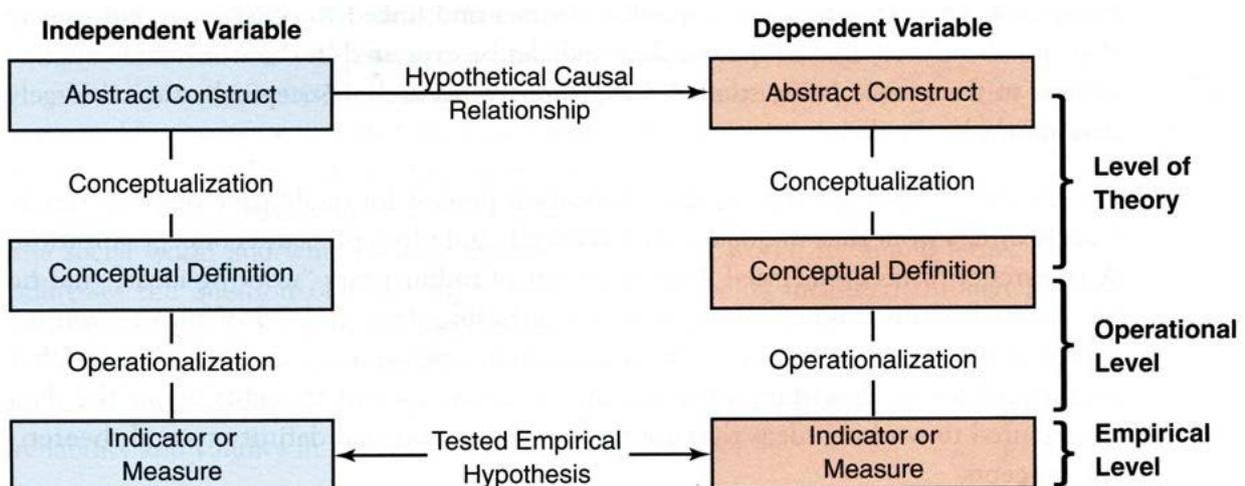
5.5 Research Design

This section is concerned with the plan of the current research that is used to address the objectives outlined in Section 1.3. Two research designs, one exploratory and one descriptive, were conducted based on the research objectives. In the first stage, exploratory research was designed in order to develop initial understanding of the phenomenon under investigation. Specifically, the exploratory research design was used to reach a theoretical understanding of the customer engagement construct and its dimensions. In addition, an initial pool of items was generated as a result of this stage in order to be analysed in further investigations. A systematic literature review and expert item judging were undertaken in the first stage. The aim of this expert item judging was to select the most appropriate items that capture each dimension of the construct.

A descriptive research design was employed for the second stage of the current research. The reasons for employing descriptive research were to examine the dimensionality of the scale by using various quantitative techniques and also to test the relationships between customer engagement and other identified constructs. The suggested hypotheses in the previous chapter provide evidence of the scale's nomological validity. However, the descriptive research design involves the analyses to test the proposed model. Importantly, the current research adopted a cross-sectional research design. Cross-sectional research design, which is the most commonly used type of descriptive research, was adopted to develop a reliable and valid customer engagement scale.

Following the scale development literature, it is highly recommended to use more than one sample to assess the psychometric properties of a new measure. Using more than one sample enhances the generalisability of the newly developed scale (Churchill, 1979; Netemeyer et al., 2003).

Generally, the research design of the current research comprises three phases. An exploratory research design is involved the first phase in which an initial pool of items is generated through a systematic literature review and expert item judging. A descriptive research design is involved in the second and third phases. The second phase includes one study, which aims to develop a reliable and valid construct scale. The third phase also includes one study, which aims to provide further validation of the construct scale. In addition, the proposed hypotheses and the model of the current research were tested in the third phase.

5.5.1 Phase One – Construct Definition and Item Generation

The first phase comprises construct definition and item generation. The next chapter explains the first phase of the scale development process including **a.** construct definition, **b.** generating an item pool, **c.** expert item judging. The following sections explain the second stage of the current research including phase 2 and phase 3 of the scale development process.

5.5.2 Phase Two – 1st Study of Scale Development

The objective of phase one of the scale development process was to generate the item pool. The item pool was generated based on the adopted definition and expert item judging. The second phase included one study. The aim of this study, which is labelled 'the first study', was to remove the items that are not appropriate for the scale measurement. In addition, the reliability and validity (convergent and discriminant) are initially tested in the second phase.

5.5.2.1 Sampling Process

Based on the definition by Neuman (2011), the sampling process is the use of different methods in order to collect sufficient data from a subgroup rather than all possible cases. In general, there are two types of sampling techniques: probability sampling and non-probability sampling. With probability or representative sampling, the probability of each selected case from the population is known and it is possible to statistically estimate the characteristics of the population from the sample. In contrast, each case in non-probability sampling is not a representative of the population. Probability sampling comprises simple random sampling, stratified sampling, systematic sampling and cluster sampling. Non-probability sampling includes convenience sampling, quota sampling, judgment sampling and snowball sampling. Following Hair et al. (2003), five important factors need to be considered to select the appropriate method. First of all, the selection of an appropriate method depends on the research questions and objectives. Secondly, the required degree of accuracy is another critical variable in the selection of the sampling method, which varies from one piece of research to another. Thirdly, the researcher's financial and human resources are important factors to consider when adopting a sampling method. The time frame is the fourth important variable in the selection of the appropriate

sampling method. Finally, the scope of the research is a key factor in determining the appropriate sampling design. Considering these five critical variables, the sampling method, sample size and data collection procedure are discussed in this section.

Sampling Method

The target population of the current research is customers in the United States who are familiar with and members of different online brand communities. The United States is one of the largest customer markets in the world (Mukherjee et al., 2012) and US customers are believed to be one of the most brand-conscious populations in western economies (Rausch, 2002). Targeting such a population with a high level of brand awareness in the US is in line with the objective of the current research to develop a reliable and valid customer engagement scale in the online brand community. Both studies in the second and third phases of the current research target the same population of US customers of online brand communities. The current research is interested in those customers who are members of official brand pages on social networking sites as well as the companies' online brand communities. And the study aims to shed light on the customer engagement behaviour and its antecedents (brand identification, community identification, information quality and group norm) and its consequences (customer satisfaction and brand loyalty). The population elements include all males and females aged 18 or above.

Both studies in the two-stage research design adopt a convenience non-probability sampling technique for three main reasons. First, the focus of the current research is to develop a customer engagement scale rather than make a generalisation to the whole population. Regarding the proposed model of customer engagement, the current research aims to provide an initial validation for the proposed model. Thus, convenience sample is an appropriate sampling method as the current research objective is to reduce the item pool to a more manageable number (Netemeyer et al., 2003). Limitations regarding the available resources and time frame were the second reason for selecting the convenience sampling method. As Bryman and Bell (2007) suggest, probability sampling needs a lot of preparation, so it is frequently avoided because of the difficulty and costs involved. Convenience sampling, as a simple and less time-consuming method, is appropriate for the current short-term project (Hair et al., 2003). Third, based on the characteristics of the target population, it is impossible to find an appropriate sampling frame. The first reason relates to the lack of information about the population. However, even with information about the population, it would be impossible to find the contact

details of the sample elements. Although there are some websites such as www.fanpagelists.com that provide a ranking list of brand communities in social networking websites, they do not provide the contact details of their members or their mailing lists. Hair et al. (2003) highlight that lack of adequate lists rules out all probability sampling methods such as systematic random sampling and stratified random sampling. Therefore, considering these three main reasons, convenience sampling was adopted as an appropriate method.

Nevertheless, it is important to mention the limitations of using a convenience sampling technique. First, the sample is not representative of the population, so it provides at best "only a weak basis for generalisations to the wider population" (Oates, 2006). Second, it can be argued that, by using a convenience sampling method for such study, only those who are more engaged and active in the community tend to participate in the questionnaire and therefore the characteristics of those who participate differ from those members who do not participate. Regarding the latter issue, the data collection of the current research is via Amazon Mechanical Turk (AMT) to make sure that the sample includes all levels of customer engagement in the online brand community.

5.5.2.2 Sample size

The research objectives including the scale development and initial test of the proposed model need to be considered in order to determine an appropriate sample size for the current research. Hair et al. (2010) explain, "Some of the statistical algorithms used by SEM programs are unreliable with small sample size". Therefore, the choice of an appropriate sample size in the current research is based on the requirement for performing exploratory and confirmatory factor analysis (Tabachnick and Fidell, 2014).

There is no perfect sample size and it depends on the complexity of the model and the number of variables. In addition, sample size should be adequate based on the number of items in the initial pool. Researchers suggest that a sample size between 200 and 400 is appropriate for conducting SEM analysis. Hair et al. (2010) suggest that a sample size of more than 400 makes the SEM analysis too sensitive. In addition, Byrn (2010) suggests that five observers are needed for each variable and the minimum sample size should be 50 observations. Netemeyer et al. (2004) suggest that a sample size of 100 to 200 is preferable for a pool with 20 items or fewer while a sample size of 300 is required for larger pools. In addition, Hair et al. (2010) categorise the minimum required sample size regarding the model complexity as presented in Table 13:

Table 13 The Minimum Sample Size Based on The Number of Observed Variables and Constructs and Item Communalities (adapted from Hair et al., 2010)

Minimum sample size	Number of items (observed variables)	Number of constructs in the model	Item communalities*
100	More than three items	Five or fewer constructs	High communalities (0.6 or higher)
150	Not important	Seven or less constructs	Modest communalities (0.5)
300	Not important	Seven or less constructs	Lower communalities (below 0.45)
500	Fewer than three observed measures	Large number of constructs	Some lower communalities

Based on the mentioned suggestions, a sample size of at least 250 was required for both exploratory and confirmatory analysis. Specifically, there are seven constructs in the proposed model and 20 items in the initial item pool.

5.5.2.3 Data Collection Procedure

The questionnaire was designed via the Bristol Online Survey (BOS via the link http://www.survey.bris.ac.uk). The BOS features enable the author to design an easy-to-read, well-structured and clear questionnaire that minimises the respondents' confusion. In order to conduct a pilot study as well as the two studies of phases 2 and 3, Amazon Mechanical Turk (AMT) was used as a tool for conducting the online survey; this process is explained in the following section.

5.5.2.4 Amazon Mechanical Turk

Paolacci et al. (2010: 411) describe AMT as "a crowdsourcing web service that co-ordinates the supply and the demand of tasks the require human intelligence to complete" and, in particular, "it is an online labour market where employees (called workers) are recruited by employers (called requesters) for the execution of tasks (called HITs, acronym for Human Intelligence Tasks) in exchange for a wage (called a reward)." Both the workers and the requesters are anonymous on AMT, but each worker has a unique ID that is provided by the Amazon website. Requesters post a task (HIT) and also they can define the criteria, so that only workers who can meet them have access to this task. The criteria include such as the country of residence as well as the degree

of accuracy, which is based on previous completed tasks. The workers can find these tasks on their own page and they choose tasks based on the criteria and time needed to complete the task, as well as the reward. It is possible for a requester who is not happy with a worker who has completed a task to a poor quality to punish the worker by refusing payment; requesters can also give bonuses to workers for good work.

The AMT has three main advantages, which are outlined as follows:

- **Subject pool access:** this is one of the main important features of the AMT and is also the main reason for conducting the current research via the AMT. According to the objectives of the research, a large pool of members of the online brand community is needed for conducting the online questionnaire. The AMT offers such access to "a large, stable pool of people willing to participate" in the questionnaire for relatively low pay (Mason & Suri, 2012).
- **Subject pool diversity:** the second feature of the AMT that makes it a great tool for research relates to the diversity of the subject pool. The workers listed on the AMT are from a wide range of backgrounds, ethnicities and languages, etc.
- **Low cost and built-in payment mechanism:** another advantage of the AMT is that it is low cost for conducting a study. Importantly, using a built-in payment mechanism rather than a third-party payment mechanism reduces the difficulties for paying workers for their participation in the study.

There is a growing body of research that discusses the data quality and validity of conducting studies on the AMT. Mason and Suri (2012) highlight the unique advantages of the AMT for conducting behavioural research. In addition, Paolacci et al. (2010) suggest that the AMT is a powerful tool that should be considered as a viable tool for data collection. Importantly, Paolacci et al. (2010) address the concerns regarding the validity and generalisability of collected data via AMT in their study.

Surveys on the Mechanical Turk

Building an online survey on the AMT can be done in two ways. First, the AMT provides a template to help in the construction of the online survey. It needs to use standard HTML to put the questions in the template. After completing the questionnaire, the AMT records the data collected from the workers and the result can be exported in a column-separated file (.csv). The other way is to use an external HIT; that means the survey was designed by an outside service. Then the survey link can be embedded in the AMT and can be accessed by the workers. The latter way is used for the current research due to unique features of the Online Bristol Survey website. These benefits include: there is "increased control over the content and aesthetics of the survey"

(Mason and Suri, 2012). In addition, there is more control regarding the survey's structure, such as having multiple pages for it. Finally, in this way the data are more secure as they are not stored on the AMT. However, conducting the survey on the AMT has the same advantages and disadvantages that have previously been mentioned, as any online survey. There are also some limitations that relate solely to conducting a survey on the AMT; these are presented in the following section.

The Limitations of Using Amazon Mechanical Turk

One of the biggest disadvantages of conducting an online survey on the AMT is related to the AMT's population, which is not representative of the online community population. Considering this limitation, Eriksson and Simpson (2010) suggest that "the diversity on Mechanical Turk facilitates cross-cultural and international research". Furthermore, although this tool is fully associated with the objectives of the current research, studies suggest that it is best suited to random population sampling, but is less successful with studies that require more precisely defined populations (Berinsky et al., 2012; Paolacci et al., 2010). In order to address these disadvantages:

1. The web-based survey was only conducted among workers with high levels of trust (expert-level accuracy) based on their previously completed tasks. Although it was more costly, this does increase the accuracy of collected data.
2. We added a text box that briefly explained the instructions for the HIT as well as a brief introduction to the study to ensure the task was clear to respondents, in order to avoid any confusion.
3. We provided a clear explanation of OBC to make sure that respondents have the required criteria for participating in the questionnaire.
4. We provided some questions regarding the OBC as to whether respondents are members, to make sure that the respondents are eligible for this study; otherwise, their data were rejected.

5.5.2.5 Study One: Quantitative Data Analyses Procedures

The first study was conducted to purify the generated items from the first phase and to examine the initial structure of the scale. This section presents the sequence of quantitative data analysis methods for the first study. The first step prior to any multivariate data analysis, as emphasised by Hair et al. (2010) and Tabachnick and Fidell (2007), is preliminary data analysis. Preliminary data analysis includes examination for accuracy, missing data analyses, detection of outliers and

test of normality. The following sub-sections explain each of the preliminary data analysis steps that were performed prior to data analyses of the first study.

Examination for Accuracy

The first step after collection of the questionnaires is the examination for accuracy. In this step, inconsistent and incomplete responses are removed from the data set. Data preparation and screening are crucial before the main data analysis. After data collection by questionnaires in pilot study and both main studies, it is important to ensure the accuracy of the data. Dealing with and resolving issues after data collection is "fundamental to an honest analysis of the data" (Kline, 2011). Tabachnick and Fidell (2014) highlight two reasons why data preparation is a critical step: (1) the estimation methods that are used in SEM make specific distributional assumptions regarding the data. These assumptions are important because violations of them could influence the result by bias. (2) Any problems with the data may result in the computer program being unable to produce a logical solution. Therefore, it is important to properly prepare the data as any data-related problem could lead to the incorrect conclusion that the proposed model is at fault.

Missing Value Analyses

Missing data is known as "one of the most pervasive problems in data analysis" (Tabachnick and Fidell, 2014). It is ideal for researchers to work with complete sets of data in which no values are missing; however, it is common to deal with this issue when using a questionnaire. Tabachnick and Fidell (2014) suggest that the best approach regarding this issue is to prevent it from happening. In this regard, clear and unambiguous questionnaire items are really important. In addition, it is possible to check the responses and make sure that there are no missing data before respondents leave the laboratory in experiment research. However, missing data are not a serious issue for the current research. Using the Bristol Online Survey provides the opportunity to check the responses and make sure that all the items are answered and, if there are any issues related to missing data, the respondents can be contacted and asked to complete the questionnaire. The respondents will not be paid until the requester confirms their work is complete.

There are some other reasons why missing data may occur, such as: "hardware failure, software bugs, missed appointments and case attrition" (Tabachnick and Fidell, 2014). However, there is

little concern with a few missing values (less than 5%) when the data analysis is on a large sample and especially when the missing values are accidental. In term of missing data, Kline (2011) states that "the pattern of missing data is more important than the amount missing". It is important to ascertain whether missing observations are systematic or not, and consequently dealing with them is different. When the missing data are not systematic, this poses less serious problems while on the other hand, when missing data are systematic, this has a have serious influence on the result. This is because, when the missing data are not systematic, "the incomplete cases differ from cases with complete records for some reasons and therefore the results based on the cases with complete records may not generalise to whole population" (Hair et al., 2010).

It is important to decide how to deal with missing data as this can have a significant influence on the result. There are different methods for doing so, and Tabachnick and Fidell (2014) suggest that "at best, the decision is among several bad alternatives". Two methods of dealing with missing data are presented in the following sections.

Deleting Cases or Variables

One simple approach to deal with missing data related to either a case or a variable is to delete the case or variable concerned. It would be a good decision if "only a few cases have missing data and they seem to be a random subsample of the whole sample" (Tabachnick and Fidell, 2014). Additionally, if the data loss is placed in a few variables and these variables are not important to the analysis or they are highly correlated with the complete variables, it is better to delete those variables with missing values.

On the other hand, if the data loss is distributed through the cases and variables, dropping the cases is not a good decision as a significant loss of subjects can occur. In addition, the deletion of cases is not favourable for researchers who spend time and money to collect them. Therefore, the other approach in such cases is estimating missing data.

Estimating Missing Data

The other method to deal with missing data is to impute or estimate missing values. 'Prior knowledge' and 'mean substitution' are two popular schemes for estimating missing data. Actually, there are other approaches such as using regression, expectation-maximisation and multiple imputations. However, in order to analyse data for the current research, mean substitution and prior knowledge are used to deal with missing observations.

Prior knowledge - this is a reasonable approach when there are few missing values in a large sample. In this approach, the researcher enters the observations from an educated guess for missing data (Tabachnick and Fidell, 2014). Researchers who spend a long time in the particular area use this option and they have confidence that the replaced values are about the median.

Mean substitution – the other popular option is to estimate missing data by calculating the mean of the available data. Tabachnick and Fidell (2014) state that this approach is conservative because "the mean for the distribution as a whole does not change and the researcher is not required to guess at missing values". This approach has some disadvantages in that mean substitution causes the reduction of variance, but the extent of the reduction depends on the amount of missing data as well as the amount of the sample (Tabachnick and Fidell, 2014).

Test of Outliers

The other issue regarding the data screening is the scores that are different from the rest; these are called outliers. Univariate outliers (when a case is extreme on a single variable) and multivariate outliers (when a case has extreme scores on more than one variable or the pattern of the scores is atypical) are the two types of outliers. Kline (2011) suggests that, to find the univariate outliers, "the common rule is that scores more than three standard deviations beyond the mean may be outliers". However, identifying the multivariate outliers is more difficult when their pattern is unusual while there are no extreme individual scores.

There are different methods to identify multivariate outliers, which can be categorised into either graphical or statistical methods. The Mahalanobis distance (D) statistics can be used to detect outliers:

"Indicating the distance in standard deviation units between a set of scores for an individual case and the sample means for all variables, correcting for inter-correlations" (Kline, 2011: 54).

In addition, Z-score can be used to detect univariate outliers. Following Tabachnick and Fidell (2007), cases with Z-scores exceeding 3.29 ($p < 0.001$) are considered potential outliers in large samples. The current research uses the box plot, which is a graphical method, and Z-score as a statistical method to detect the univariate outliers.

Test of Normality

The next important step and also a fundamental assumption in most multivariate analysis is checking the normality of variables. Normality aims to understand how data are distributed for

a particular variable. The importance of normality is that, if the variables are normally distributed, it would lead to better solutions from analysis but it is not always necessary to test the normality (Kline, 2011). In contrast, if the variables are not distributed normally, the solution is degraded. There are two types, graphical and statistical, to assess the normality.

The current research uses kurtosis and skewness tests to assess the normality. These two components of normality can be applied to a particular variable either together or separately. Skewness has to do "with the symmetry of the distribution and therefore a skewed variable is a variable whose mean is not in the centre of the distribution". In addition, kurtosis has to do "with the peakedness of a distribution" (Tabachnick and Fidell, 2014). In order to have a normal distribution, the values of both skewness and kurtosis should be zero (Hair et al., 2010). The critical values for transformed (standard normal) test statistics relating to skewness and kurtosis that are suggested by Hair et al. (2010) are ±2.58 (.01 significance level) and ±1.96, which corresponds to a 0.05 error level. The current research evaluated sample skewness and kurtosis to assess normality but Field (2005: 93) stated that these two methods "do not indicate whether the distribution as a whole deviates from a comparable normal distribution". Therefore, the normality assumption for each item was also tested via Kolmogorov-Smirnov (K-S) and Shapiro-Wilk (S-K) procedures. Kolmogorov-Smirnov (K-S) and Shapiro-Wilk (S-K) tests compare the scores in the sample to a normally distributed set of scores. Thus, skewness and kurtosis statistics were assessed in the first step and then Kolmogorov-Smirnov (K-S) and Shapiro-Wilk (S-K) were performed to test the normality assumption.

Demographic Profile of Respondents

The preceding sections have outlined the preliminary data analysis process including data cleaning, test of outliers and tests of normality. This section presents the characteristics of the sample focusing on gender, age, annual income and education level. The questionnaire comprising the remaining 28 'customer engagement' items applied to the different brand communities was administered to a sample of 251 members of these communities.

The sample comprised 251 customers of online brand communities and reflected the following demographic profile. As shown in Table 30, 52.6% of respondents were male and 47.4% were female. With regard to age, the biggest segment of the respondents was between 25-34 years old (approximately 50%) and it was followed by the groups of 18-24 years old and 35-45 years old. Regarding the income level, the biggest segments of respondents had a monthly income of

$1500-2000. The respondents with the highest levels of education formed the biggest segment with respect to the education level, which was more than 68% of all respondents. In summary, the general demographic profile of all respondents was young (69% aged 25-44) and well educated.

In addition, the characteristics of the online communities are as follows. The biggest segment of respondents belongs to an online community of coffeehouse companies, mainly Starbucks and Costa (23%). In total, the sample comprised members of 32 different online brand communities who participated in the online survey and completed the questionnaire. The second biggest segment of respondents could be categorised as customers of symbolic brands such as Apple and BMW. The data showed that 14% of respondents who completed the questionnaire were members of such online communities. In this study, the classification is based on the type of the community and not the type of the brand. The online communities are classified by two methods: 1) communities on social networking sites (SNS) and communities with their own website and 2) brand communities that are initiated by consumers and those that are initiated by companies. According to the first method, the data show that 36.3% of respondents are members of brand communities on social networking sites and 63.7% are users of online communities that own websites. In line with the second method, 33.5% and 66.5% respondents are members of customer-initiated and company-initiated communities respectively. Table 14 shows the demographic profile of respondents as well as the types of online brand communities that have been studied.

Table 14 Sample Characteristics for the First Scale Development Study

Category (Items)	Frequency	Percentage
Gender		
Male	132	52.6
Female	119	47.4
Age Category		
18 - 24 years old	55	21.9
25 - 34 years old	125	49.8
35 - 44 years old	48	19.1
45 - 54 years old	19	7.6
55 - 64 years old	4	1.6
65 or over	Zero	Zero
Income		
=<$1001 p/m	38	15.1
=$1001 - 1500 p/m	47	18.7
=$1501 - 2000 p/m	60	23.9
=$2001 - 2500 p/m	48	19.1
=>$2500 p/m	58	23.1
Level of Education		
No education	Zero	Zero
Primary education	8	3.2
Lower secondary education	28	11.2
Intermediate secondary education	44	17.5
Higher education	171	68.1
Community Type-1		
SNS	91	36.3
Website	160	63.7
Community Type-2		
Customer-initiated	84	33.5
Company-initiated	167	66.5

Exploratory Factor Analysis and Confirmatory Factor Analysis

CFA is a technique to analyse "a priori measurement models in which both the number of factors and their correspondence with the indicators are explicitly specified" (Kline, 2011: 112). And this

statistical technique tests how well observed variables (measured variables) represent the smaller number of latent variables (constructs). This is the main difference between CFA and EFA: that the relationship between observed variables and latent variables and the number of them is specified by theory in CFA statistics, while in EFA "the factors are from statistical results not from a theory" (Hair et al., 2010). However, CFA statistics confirm whether the assigned variables and the number of them, which is based on a theory, present the constructs well. in contrast, in EFA, the statistical method determines the number of measured variables and the loadings. Therefore, unlike the EFA, the measurement theory is needed to specify the number of factors (measured variables) and which latent constructs are loaded on those factors.

The first step of the scale development process is performing Exploratory Factor Analysis. The objectives of using EFA in the first study were to purify the newly developed scale by reducing the number of initial items and to identify the potential dimensionality of the construct. There are three important decisions based on the suggestion of Conway and Huffcutt (2003) for performing EFA: (1) the factor extraction method used, (2) the number of factors extracted, and (3) the rotational method used.

- **The factor extraction method used.** Common factor analysis and component analysis are two categories of the factor extraction method (Hair et al., 2010). Principal component analysis (PCA) is used when the objective is "to reduce the number of the variables by creating linear combinations that retain as much of the original measures' variance as possible" (Conway and Huffcutt, 2003: 150), while common factor analysis is used when the objective is to reveal the underlying dimensions for a set of items (Netemeyer et al., 2003). Common factor analysis (i.e. principal axis or maximum likelihood factoring) is mainly used in the scaling literature (Hollebeek et al., 2014; Hair, 2010; Netemeyer et al., 2003) and, according to Conway and Huffcutt (2003), there is a growing use of PCA among researchers. Hair et al. (2010) state that the complicated nature of the common factor analysis is the main reason for the widespread use of PCA. However, while these two methods are completely different, both give almost identical results. Following Conway and Huffcutt (2003) and Hair et al. (2010), the first study adopted both methods as the factor extraction method.
- **Number of factors extracted.** A number of criteria should be considered to identify the number of factors extracted. One of the important criteria is the eigenvalue rule, where the significant factors are factors with an eigenvalue greater than 1. Particularly, the eigenvalue shows the amount of variance accounted for by this factor, and this factor should be retained if the eigenvalue is greater than 1. Having between 20 and 50 items is sufficient for using the eigenvalue calculations. The scree test criterion is another technique, where retention decision is based on the shape of the resulting curve (Hollebeek et al. 2014). Where the curve begins to straighten, this represents the number

of factors to be retained. The third criterion, which is suggested by Hair et al. (2010), is the amount of variance that is explained by the factors extracted. The number of factors extracted is identified if the amount of variance is 60% or higher of the total variance. Although the underlying dimensions of the construct were adopted from Brodie et al.'s (2013) study, the current research used several criteria to decide on the number of factors to extract.

- **Rotational method used.** The importance of using a rotational method after the number of factors has been extracted is due to its role in obtaining a simpler and meaningful factor structure (Hair et al., 2010). Orthogonal rotations and oblique rotations are two types of rotational method. Varimax is the widely used orthogonal rotation approach, whereas promax is the popular technique in oblique rotation. Oblique rotations allow factors to correlate, while interdependence between the factors is assumed in orthogonal rotations. According to Hair et al. (2010), there are no rules for adoption of either oblique rotation or orthogonal rotation. However, this study adopted the oblique rotation method following Conway and Huffcutt (2003) that oblique rotation is more likely to reflect reality and produce a simple factor structure.

Confirmatory Factor Analysis

The next step of the scale development is to perform Confirmatory Factor Analysis (CFA). EFA is used to provide initial analyses for the scale construction and CFA is really important for the later stages of scale development (Anderson and Gerbing, 1988; Netemeyer et al., 2003). The most important difference between EFA and CFA is that CFA is theory-driven. The relationship between observed variables and their intended latent construct should be specified by CFA model (Hair et al., 2010). There are number of reasons for using CFA in the first study: first, it is used to assess subscale unidimensionality as a prerequisite to reliability and construct validity (Anderson and Gerbing, 1988; Hair et al., 2010; Netemeyer et al., 2003). Second, it is used to confirm or reject the specified factor model from EFA. Third, it is used to identify items that may threaten the dimensionality of the scale (Hair et al., 2010). Finally, the construct's composite reliability and both convergent and discriminant validity were assessed by performing CFA.

Reflective versus Formative Indicator Measurement Models

It is important to specify the relationship between the construct and its measures before estimating the measurement and the structural model (MacKenzie et al., 2005). The results vary for formative and reflective models and the nature of construct-indicator relations should be considered. Following Brodie et al. (2013) and Baldus et al. (2015), customer engagement was specified as a reflective second-order construct. The current research follows exploratory

research by Brodie et al. (2013) and suggests five reflective first-order dimensions for the CE construct. It is expected that all the five dimensions correlate with one another and are distinct. This implies that the five dimensions are more likely to share variance and to be driven by a single underlying construct.

Unidimensionality of Measures

Another important part of the scale development process concerns the dimensionality of the construct. Netemeyer et al. (2003) explain "it is almost impossible to develop good measures of a construct without the knowledge of the construct's dimensionality". When it says that the items of a measure are unidimensional, it means that "they are strongly associated with each other and represent a single concept" (Hair et al., 2010). In order to test the dimensionality of items, factor analysis plays an important role in determining "the number of factors and loading of each variable on the factor(s)" (Netemeyer et al., 2003). There are different techniques to assess the scale's unidimensionality, such as item-total correlations, coefficient alpha, and exploratory factor analysis (Anderson and Gerbing, 1988; Netemeyer et al., 2003).

Reliability

Measurement reliability means that "the numerical results an indicator produces do not vary because of characteristics of the measurement process or measurement instrument itself" (Neuman, 2011). There are three types of measurement reliability, which are explained as follows:

- **Stability reliability:** this type of reliability specifies the reliability across time. It addresses the question, 'Will the same result be obtained when the measure is applied in different time periods? Test re-test is a method by which to estimate the level of stability reliability of an indicator. This method estimates the reliability by re-testing the indicator on the same group of respondents. Statistically it can be obtained by "correlating data collected with those from the same questionnaire collected under as near equivalent conditions as possible" (Saunders et al., 2003). There are some shortcomings regarding stability reliability, such as the question of - How long should be allowed to elapse between two tests? - and also difficulties in encouraging respondents to answer the same questionnaire after a period of time that limit its usefulness.
- **Alternative form reliability:** this reliability is similar to stability reliability; however, in alternative form reliability, two different developed measures are used for the same construct, whilst in stability reliability, the same measures for the same construct are

tested in the different time periods. Therefore, the issues are the same as for stability reliability.

- **Equivalence reliability:** this is also known as internal consistency, and is applied when using multi-items or indicators to measure a construct, like in the current study. Therefore, this type of reliability is important for the current research. Equivalence reliability offers a consistency across the indicators, which means "a reliable measure gives the same result with all indicators" (Neuman, 2011). This common type of reliability shows that all observers or indicators agree with each other. The concept of internal equivalency can be used to estimate reliability instead of stability and alternative form reliability types due to their issues for testing (Netemeyer et al., 2003).

The internal consistency reliability is "the degree to which responses are consistent across the items within a measure" (Netemeyer et al., 2003). The Cronbach alpha coefficient is the most widely used measure to assess the scale's internal consistency. The acceptable value for Cronbach's alpha is 0.7 or above (Hair et al., 2010). Reliability coefficients around 0.9 are considered 'excellent', those around 0.7 are 'acceptable' and lower than 0.7 is considered as 'poor' coefficient reliability (Kline, 2011). The other type of reliability is related to each separate item. It includes item-to-total correlation and the inter-item correlations. The former measures "the correlation of the item to the summated scale score" and the latter measures "the correlation among items" (Hair et al., 2010). These tests identify which item is to be deleted if it is not consistent with other items. This analysis is also called purifying the measures. The rules of thumb of each method which are suggested by Hair et al. (2010) are illustrated in Table 14. Apart from the mentioned measures for testing the reliability, there are some reliability test including composite reliability and the average variance extracted which are derived from confirmatory factor analysis (CFA).

Table 15 The Reliability Test Measurement and Acceptable Value Range (adapted from Hair et al., 2010)

Test	Measurement	Value
Reliability	Item-total correlation	>= 0.5
	The inter-item correlation	>= 0.3
	Cronbach's alpha	>= 0.7

Measurement Model Assessment

The measurement model explains the relationship between the observed variables and the latent constructs (Hair et al., 2010). Three criteria should be considered in order to assess the measurement model: (1) assessment of fit, (2) significance of parameter estimates and (3) construct validity.

Fit Assessment

There are numerous fit indices that can be used as measures of goodness-to-fit. These fit indices indicate "how well the specified model reproduces the observed covariance matrix among the indicator items" (Hair et al., 2010). There are three types of measures to indicate goodness-to-fit: absolute measures, incremental measures and parsimony fit measures. These different measures that are used for testing the model fit are shown in Table 15.

Table 16 Measures for Assessing The Fit of Model (adapted from Hair et al., 2010). *p > 0.05

Absolute measures	Description	Rules of Thumb
Chi-square	The fundamental statistical measure in SEM to quantify the differences between the covariance matrices	It is based on the sample size
Goodness-of-Fit index (GFI)	It is used to produce a fit statistic that was less sensitive to sample size	>0.95
Root Mean Square Error of Approximation (RMSEA)	It is used to correct for the tendency of the $x2$ GOF test statistic to reject models with a large sample or a large number of observed variables.	< .05 good; .05-.10 moderate; >.10 bad
Standardised Root Mean Residual (SRMR)	It is used for comparing fit across models	< .09
Incremental Fit Indices		
Normed Fit Index (NFI)	It is a ratio of the difference in the Chi-square value for the fitted model and a null model divided by the Chi-square value for the null model.	>.90
Comparative Fit Index (CFI)	The CFI is an incremental fit index that is an improved version of the normed fit index (NFI).	>.95 great; >.90 traditional; >.80 sometimes permissible
Parsimony Fit Indices		
Adjusted Goodness of Fit Index (AGFI)	It is used to take into account differing degrees of model complexity.	>.80
Parsimony Normed Fit Index (PNFI)	The PNFI adjusts the normed fit index (NFI) by multiplying it times the PR	>.90

Significance of Parameter Estimates

Parameter estimates assessment as a fundamental issue in evaluation of the measurement model explores the relationship between the indicators and their intended latent constructs (Hair et al., 2010). Item loadings are interpreted in terms of magnitude and statistical significance. Specifically, having an item loading size of at least 0.5 and ideally 0.7 or higher indicates that the items are performing adequately. In contrast, items are candidates for being removed if the parameter estimates are non-significant and lower than 0.5. Netemeyer et al. (2003) suggest that items with high loadings may be indicative of item redundancy and result in lower model fit and these items are also not desirable. The sign of the item loading and the standardised loading are two important issues regarding item loadings that should be considered. The sign of the item loading should be consistent with the proposed model. In addition, standard loadings should be between -1.0 and 1.0 as loadings that are not within this range indicate a problem with the model (Hair et al., 2010).

Construct Validity

Generally, validity concerns the accuracy of research and construct validity refers to accuracy of measurement. Hair et al. (2010) define the construct validity as "the extent to which a set of measured items actually reflects the theoretical latent construct those items is designed to measure". The construct validity comprises four components: face and content validity, discriminant validity, convergent validity and nomological validity. CFA is primarily a useful technique for assessing convergent and discriminant validity while structural equation modelling (SEM) provides an assessment of nomological validity (Netemeyer et al., 2003). The four types of construct validity are explained as follows:

- **Face Validity:** this is the basic type of validity and also the easiest one to achieve. Nunnally and Bernstein (1994) suggest, "Evidence of face validity is provided from a post hoc evaluation that the items in a scale adequately measure the construct". Similarly, Netemeyer et al. (2003) suggest that the scientific community can provide a judgement regarding the face validity. High face validity of items can be seen in practical situations when the items are easy-to-use and respondents can easily read them.
- **Content Validity:** content validity and face validity are also known as components of translation validity (Netemeyer et al., 2003). The purpose of content validity is to make sure whether the measures or items represent the full content of the conceptual definition. Hair et al. (2010) define content validity as "assessment of the degree of

correspondence between the items selected to constitute a summated scale and its conceptual definition". In order to achieve content validity, three steps are suggested by Netemeyer et al. (2003): first, the content needs to be identified in the construct definition, second all the aspects of the definition should be sampled and finally related indicators should be developed for each aspect. Face validity and content validity of generated items were assessed by a group of expert item judges including professors and PhD students in the marketing field. The first phase of the current research considered the assessment of face validity.

- **Convergent Validity:** convergent validity refers to the high proportion of variance shared by all measured variables of a specific latent variable in common (Hair et al., 2010). There are three measures by which to estimate the convergent validity: **Factor Loadings:** the size of the factor loading plays an important role in estimating the convergent validity. The measured variables with high loadings determine that they converge on the same construct. **Communality:** this measure represents "how much variation in an item is explained by the latent factor and termed the variance extracted of the item"(Hair et al., 2010). **Average Variance Extracted (AVE):** the other indicator of convergent validity is the Average Variance Extracted (AVE). AVE reflects 'the mean variance extracted for the items loading on a construct' and is a summary indicator of convergence. The rule of thumb for each measures as suggested by Hair et al. (2010) is shown in Table 16.

Table 17 Convergent Validity Measures (adapted from Hair et al., 2010)

Convergent Validity Measures	Rule of Thumb
Factor Loadings	> 0.5
Communality	> 0.3
Average Variance Extracted (AVE)	> 0.5

- **Discriminant validity:** The other component of construct validity that shows "a construct is truly distinct from other constructs" is assessed by discriminant validity. (Hair et al., 2010). Testing the discriminant validity shows that a particular construct is unique and distinct from other different yet related constructs. There are three methods by which to assess discriminant validity: first, the correlation between two constructs is assumed to be one and, if "the fit of the two-constructs model is significantly different from that of the one-construct model, then the discriminant validity is supported" (Hair et al., 2010: 35). The second technique to assess discriminant validity is by comparing the constrained model, where the parameter between two constructs is estimated to be one, and the unconstrained model, where this parameter is freely estimated. Discriminant validity is supported if the chi-square value of the unconstrained model is significantly lower than the chi-square value of the constrained model (Anderson and Gerbing, 1988). For the third technique, which was suggested by Fornell and Larcker (1981), discriminant validity is assessed by a rigorous test. If the Average Variance Extracted (AVE) for each construct

is greater than the square of the correlation between these two constructs, the discriminant validity is achieved.

5.5.3 Phase Three: Final Validation Study (2nd Study)

The objectives of the third phase, which includes one study with an independent sample, are as follows: first, the second study was designed to provide further validation for the scale developed from phase 1 and phase 2 by replicating the confirmatory factor structure. Second, the nomological validity was tested via examination of the relationships between CE and a number of potential antecedents and consequences. Third, evidence of initial validation for the proposed model of customer engagement in the online brand community was established based on the Elaboration Likelihood Model. The sampling process for the second study is explained in the following section.

5.5.3.1 Sampling Process

The second study follows a similar sampling process to the first study and employs convenience sampling by recruiting respondents via the services of Amazon Mechanical Turk (AMT). However, there are a number of rules regarding sample size that need to be considered in order to conduct Structural Equation Modelling (SEM). As discussed in Section 5.5.2.3, 150-200 is the minimum appropriate size for SEM. The process of the questionnaire design is presented in the next section.

5.5.3.2 Questionnaire Design

This section concerns with the questionnaire design. The questionnaires used for both studies are attached as appendices. Following Malhotra and Birks (2006), this section describes the different steps in order to design the questionnaire.

Information Needed

The questionnaire includes three types of information based on the current research objectives. The first type of information that was collected through the questionnaire was screening information. These questions were designed to screen respondents with respect to regular use of the online brand community to assess their eligibility to answer the questionnaire. The second

type of required information was related to demographic characteristics. The data were used to create a descriptive profile of the respondents. The final type of required information was based on the research objectives. As mentioned, the objective of the second study is to confirm the dimensionality of the scale and also re-examine the convergent and discriminant validity of the scale with respect to a new sample. Importantly, the purpose of the second study is to test nomological validity of the scale. The final type of information is collected to test the proposed customer engagement model. The model comprises potential antecedents and consequences of customer engagement in the online brand community. Data were collected regarding the constructs represented in the proposed model.

Type of Survey and Method of Administration

As mentioned in Section 5.5.2.3, a web-based survey was used to collect data. The designed questionnaire was placed on Amazon Mechanical Turk for potential respondents to complete.

Content of Individual Questions

The first section of the questionnaire comprised screening questions. Questions relating to name of the online brand community, the number of members and also the type of online brand community were asked in this section. The data were used to check the eligibility of respondents to participate in the questionnaire. The respondents were asked to write the name and number of the members and then select the type of online brand community. Different types of online brand community were explained with examples provided to respondents.

The second section of the questionnaire comprised demographic questions including gender, age, income, and educational level. The descriptive profiles of the respondents are presented according to the information collected by these questions

The third section of the questionnaire included the measurement items of the constructs in the proposed model. The items of the antecedents and consequences of customer engagement as well as the remaining items of customer engagement were included in this section. This section also included the items of the marker variable construct in order to assess common method bias. The process of selecting measurement items for each construct is presented in detail in Section 5.6.

Pre-test and Revise the Questionnaire

Prior to conducting the study of the third phase, the questionnaire was pilot tested. The purpose of carrying out a pilot test is to identify any problems for respondents when answering the questionnaire and also any problems regarding recording of the data. Furthermore, the assessment of questionnaire validity and the reliability of data can be obtained via the pilot test. And, importantly, the undertaking of preliminary analysis on the collected data by a pilot test can ensure that we achieve the research objectives. In terms of the importance of the pilot test, Bell (2005) states, "however pressed for time you are, do your best to give the questionnaire a trial run, as without a trial run, you have no way of knowing your questionnaire will succeed."

Initially, a pre-test of the questionnaire was completed by 10 PhD students competent in marketing and information systems, to help establish content validity and face validity. Their suggestions on question wording and questionnaire structure were very helpful. Their comments and suggestions were applied before conducting the pilot study.

Demographic Profile of Respondents

The report of the demographic profile for the second study is shown in Table 18. The sample comprised 45% females and 55% males, and the largest age group of the respondents was 25-34. The results regarding the demographic profile of respondents were similar to the first study. Again as similar to the first study, the biggest segment of respondents was well educated and had obtained a postgraduate degree. In addition, the distribution of age of respondents revealed that all respondents were aged below 65 years old. The income level of respondents varied where a monthly income between $1501 and $2000 or more than $2500 were the biggest two segments. In contrast to the first study, the members of the customer-initiated communities were the larger segment of the respondents. Further details regarding the demographic profile are shown in Table 18.

Table 18 Sample Characteristics of the Second Study

Category (Items)	Frequency	Percentage
Gender		
Male	282	55.6
Female	225	44.4
Age Category		
18 - 24 years old	81	15.9
25 - 34 years old	304	59.9
35 - 44 years old	84	16.5
45 - 54 years old	31	6.1
55 - 64 years old	7	1.3
65 or over	Zero	Zero
Income		
=<$1001 p/m	24	4.7
=$1001 - 1500 p/m	26	5.1
=$1501 - 2000 p/m	261	51.5
=$2001 - 2500 p/m	43	8.4
=>$2500 p/m	153	30.1
Level of Education		
No education	Zero	Zero
Primary education	9	1.7
Lower secondary education	37	11.2
Intermediate secondary education	48	9.4
Higher education	413	81.4
Community Type-1		
SNS	203	40.0
Website	304	59.9
Community Type-2		
Customer-initiated	311	61.3
Company-initiated	196	38.6

5.5.3.3 Study Two: Quantitative Data Analysis procedures

The purpose of the second study was to provide further evidence of validity (convergent and discriminant) and reliability of the scale as well as primarily nomological validity by using a new independent sample. All the performed analyses for the first study were replicated in order to achieve the objectives of the second study. In addition, covariance-based structural equation modelling (SEM) was used to test the hypothesised relationship of customer engagement with its antecedents and consequences. The following section provides an overview of the structural equation modelling (SEM) steps.

5.5.3.4 Structural Equation Modelling and Hypotheses Testing

The Structural Equation Model (SEM) is:

"A collection of statistical techniques that allow a set of relationships between one or more independent variables (IVs) and one or more dependent variables (DVs) to be examined" (Tabachnick and Fidell, 2014: 655).

SEM includes a group of statistical models that explain the relationship among the constructs (IVs and DVs). This group uses causal analysis, path analysis and confirmatory factor analysis (CFA), etc.

In the first step of the SEM technique, the researcher proposes a set of relationships between independent and dependent variables drawn upon theories and prior research. In these sets of relationships, independent variables predict dependent variables. In addition, a variable that is dependent in one relationship is independent for another relationship. In fact, SEM expresses these 'dependence relationships' among the sets of relationships in which a variable plays the role of both dependent and independent variable in two different relationships. Then, a series of structural equations is defined from the proposed relationships for each dependent variable (Hair et al., 2010). Therefore, the current research adopted SEM to analyse the model and test the hypotheses. There are different steps to follow in order to analyse the SEM. These steps have been proposed by different scholars such as Kline (2011) and Hair et al. (2010) and Tabachnick and Fidell (2014). The current research follows the six stages for analysing the structural equation model proposed by Hair et al. (2010). These six basic steps are listed below and these processes are shown in Figure 15:

1. **Defining individual constructs**
2. **Developing the overall measurement model**
3. **Designing a study to produce empirical results**
4. **Assessing the measurement model validity**
5. **Specifying the structural model**
6. **Assessing structural model validity**

Figure 15 Different Stages of SEM (adapted from Hair et al., 2010)

Stage	
Stage one	**Defining the Individual Constructs** What items are to be used as measured variables?
Stage two	**Develop and Specify the Measurement Model** Make measured variables with constructs Draw a path diagram for the measurement model
Stage three	**Designing a Study to Produce Empirical Results** Assess the adequacy of the sample size Select the estimation method and missing data
Stage four	**Assessing Measurement Model Validity** Assess line GOF and construct validity of measurement model

Measurement Model Fit?

Refine measures and design a new study

Proceed to test structural model with stages 5 and 6

Stage five	**Specify Structural Model** Convert measurement model to structural model

Stage six	**Assess Structural Model Validity** Assess the GOF and significance, direction, and size of structural parameter estimates

Measurement Model Fit?

Refine model and test with new data

Draw substantive conclusions and recommendations

Defining Individual Constructs

It is necessary to have an appropriate measurement theory in order to obtain a reasonable result from SEM (Hair et al., 2010). It is crucial to explain how hypotheses are developed from the theories and how the model is proposed. However, this stage evolves operationalisation of constructs, developing scales and pre-testing the measures. The current research has explained how the constructs are conceptualised and the related items adapted from the prior studies.

Developing the Overall Measurement Model

When the scales and measures for constructs have been developed, the next stage is to specify the measurement model. It is preferable to show the measurement model by a diagram. In the diagram, the measures (observed variables) are assigned to their construct (latent variable). This stage is also known as model specification. As explained in Section 5.7, the current research uses Amos 22.0 for SEM analysis and this software specified the measurement model.

Designing a Study to Produce Empirical Results

The next stage after specifying the basic model is to consider issues regarding research design and model estimation. In terms of research design, there are three main issues: sample size, the type of data and missing data, which were explained in the previous section. Similarly, there are three issues regarding model estimations: the model structure, used estimation technique and the computer program for SEM analysis.

Hair et al. (2010) state that "among the most important steps in setting up a SEM analysis is determining and communicating the theoretical model structure to the program". All the approaches perform the same function and, as mentioned, the current research uses Amos 22.0 for both measurement model and the structure of model, which are completely graphical.

Assessing the Measurement Model Validity

In stage four of the SEM analysis, after specifying a measurement model, collecting the required data and selecting the estimation technique, the next stage is to test the model's validity. This stage includes two validity tests: (1) construct validity and (2) goodness-of-fit of the proposed model. Both were described in Subsection 5.5.2.5.

Specifying the Structural Model

In stage two, the indicators were assigned to the related constructs, which is called specifying the measurement model. However, in this stage, the relationships between constructs (latent variables) that are "based on the proposed theoretical model" are assigned to each other (Hair et al., 2010). Thus, this stage is called the structural model specification. In this stage, single-headed and also directional arrows are added to represent the proposed hypothesis in the current research model. The current research has suggested the hypotheses in Chapter Four and they show the relationships between constructs. These dependence relationships are specified in this stage. After this stage, we will have a confirmatory factor analysis (CFA) model in which the relationships between constructs are specified based on the proposed hypotheses. It is necessary to have both the measurement model and the structural model together in order to estimate the SEM.

Assessing the Structural Model Validity

In the final stage, the structural model that was explained in the previous section is tested as well as the hypotheses. It is crucial to test the first measurement model and then test the structural model. Therefore, two requirements are needed before this stage: first, testing the validity of the measurement model and second to test if the model has an acceptable model fit.

In order to test the validity of the structural model, the estimated parameters are needed to make sure that the structural model is validated. The process of testing validity is the same as in stage 4. The only difference is related to covariance matrix (Hair et al., 2010). In the measurement model, it is assumed that all constructs are correlated to each other, while in the structural model, which is based on the hypotheses, there is no correlation between some of the constructs. The criteria mentioned in Table 15 are used for establishing the validity of the structural model and therefore "at least one absolute index and one incremental index" as well as the chi-square goodness-of-fit (GOF) test (Hair et al., 2010) are required.

5.6 Adoption of Measurement Items

This section presents the process of adopting measurement items for the constructs used in the proposed model.

5.6.1 Introduction

Netemeyer et al. (2003) define measurement at its core as "consist[ing] of rules for assigning symbols to objects to numerically represent quantities of attributes". Therefore, measurement is known as the evaluation of the numbers that "reflect the differing degrees of the attribute being assessed" (Devellis, 2012). It is important to mention three terms in the definition of measurement to understand what is being measured and how. The first term is the 'object' which in the current research is related to the customer. The second term is the 'rules', which refers to "the explicitly stated assignment of numbers" (Netemeyer et al., 2003) and the third term is the 'attribute', which is the particular feature of the objects that is being measured (Netemeyer et al., 2003). Thus, the social-psychological attributes of the object (online customer) are identification with brand, identification with community, group norm, perceived information quality, brand loyalty and customer satisfaction. Importantly, the aim of the current research is to measure attributes not the object.

In addition, the 'rules' of measurement for some variable such as weight, which is measured by pound or kilogram, are obvious and universal. However, there is no such universal measure for the constructs of the current research such as other social-psychological constructs. Nevertheless, although the universal rules for such constructs are not available, for the purposes of standardisation, it is very important to develop accepted rules (Netemeyer et al., 2003). There are four important factors regarding the rules when they are standardised (Nunnally and Bernstein, 1994): (1) rules of measures are clear, (2) they are practical to apply, (3) they are not demanding of the administrator or respondents and (4) results do not depend on the administrator. Measures with these features lead to similar results and the scores obtained from them across applications can be interpreted as low, medium and high (Netemeyer et al., 2003).

5.6.2 Using Multiple Items for Scaling the Latent Constructs

According to the previous section, the current research aims to measure the mentioned attributes of the object and these attributes are abstracts that are latent by nature. A latent construct can be described as:

"*Latent constructs are not directly observable or quantifiable. A latent construct is also variable; that is, the strength and magnitude for the ratings on a latent construct may change over time*" (Netemeyer et al., 2003: 4)*.*

Although there is an important discussion regarding the measures of the latent variables, there is a general agreement that multiple items or statements are the most accurate way to identify the varying degrees of the constructs (Clark and Watson, 1995; Diamantopoulos, Sarstedt et al., 2012; Nunnally and Bernstein, 1994). The reason for constructing a scale is because the attributes of the given object are abstracts and it is not possible to measure them directly. Actually, it is possible to measure some psychological constructs via behaviour (e.g. when a customer buys from a particular brand repeatedly, it can be perceived that the customer thinks this brand is good) but it is impossible for the majority of such variables to be measured via an individual's behaviour. The current research uses the appropriate items for each construct from the prior studies.

It is important to highlight the differences between index and scale before moving to the next section regarding the development of the items for the latent constructs of the current study. The importance of making this distinction is due to (mis)using these terms interchangeably when they are not the same. Their differences can be seen in their definitions:

"*A scale is a measure in which a researcher captures the intensity, direction, level, or potency of a variable construct and arranges responses or observation on a continuum. A scale can use a single or multiple indicator*" (Neuman, 2011).

While an index is "*a measure in which a researcher adds or combines several distinct indicators of a construct into a single score*" (Neuman, 2011).

Therefore, in scaling, the scores on the items are driven by the latent construct theoretically, in contrast to indexing, where the scores on the items drive the latent construct (Netemeyer et al., 2003). Indices are widely used in socioeconomic studies while scaling is used in psychological fields and helps in the measurement process including conceptualisation and operationalisation.

The current research used a 'Likert scale' in the questionnaire as one form of response to the questions. The development of the Likert scales used is presented in the next section.

5.6.3 The Development of Items for the Latent Constructs

In the previous section, the multi-item scale, which is used for the measurement of the latent construct, was explained. However, a wide range of latent constructs in the social sciences are not observable and quantifiable (Netemeyer et al., 2003). These constructs range from very broad to narrow constructs, and their level of abstraction requires thoughtful elaboration. The theory and the literature review are important in developing the measures of the latent constructs.

5.6.3.1 Theory and Validity

The importance of theory has been eloquently stated by different authors such as Loevinger (1957) and Cronbach and Meehl (1995). Netemeyer et al. (2003: 7) stated "for measures of a latent construct to have relevance in the social sciences, the latent construct should be grounded in a theoretical framework". Even those very narrow abstract constructs when embedded in theory are more useful as antecedents and consequences of other latent constructs. However, the relevancy of the latent construct to the social sciences considerably depends on the theory in which it is embedded.

5.6.3.2 Importance of the Literature Review

The conceptualisation of a well-grounded theory is based on an in-depth literature review. The importance of the literature review can be considered from two aspects: first, reviewing previous research can help to identify the independent and dependent variables, and also the boundaries and content domain can be uncovered by a precise conceptualisation. In this regard, the literature review also shows the weaknesses and strengths of previous attempts to measure the constructs. Second, as it is time-consuming and also costly to develop scales and particularly scale validation, a rigorous literature review will help find good measures of a construct. Thus, the literature review can help avoid redundant attempts in developing scales for a construct when they are already well measured (Netemeyer et al., 2003).

In order to develop multi-items to measure the latent construct in the proposed model of the current research, theories and literature review were important. As mentioned in the previous chapter, the latent constructs of the current research are embedded in theories of social influence and ELM and online customer behaviour. Furthermore, the study adopted the ELM as a theoretical basis on which to propose the conceptual model. In addition, all measures are based on the review of previous studies and existing literature. The multi-items scales are derived from the prior research in which the same latent constructs are used. It was necessary to change some wording of the items because the current research uses them for the context of online brand community. The multi-items of each construct are presented in the following sub-sections.

Multi-item Scale for Perceived Information Quality

In order to measure perceived information quality in OBC, four items were selected. The respondents were asked to indicate the degree of agreement using a 7-point strongly-agree, strongly-disagree Likert-type scale. The items were selected from the studies of Zhou (2012), Lin (2008) and Dholakia et al. (2009).

Table 19 Multi-item Scale for Information Quality

Variable	Items	References
Information Quality	1. The information provided in the OBC is accurate.	Zhou (2012), Lin (2008) and Dholakia et al. (2009).
	2. The OBC provides me with a complete set of information.	
	3. The information from the OBC is always up to date.	
	4. The OBC provides me with all the information I need.	

Multi-item Scale for Perceived Group Norm in the Online Community

In order to measure the degree of group norm held by members in online brand community, three items were selected. The respondents were requested to consider the engagement in OBC as a goal for the first two questions. They were asked to estimate the strength to which each holds the goal using a 7-point strong-weak scale. And the third item regarding the group norm was asked in a separate question as it has a different response form. The third question was about the perceived similarity between their values and goals and those of other members of the community. This scale was measured using a 7-point completely-congruent, completely-incongruent scale. The items were selected from the studies of Dholakia et al. (2004), Shen et al. (2009) and (Zhou, 2011).

Table 20 Multi-item Scale for Perceived Group Norm

Variable	Items	References
Group Norm	1. Strength of the goal by yourself. 2. Average of the strength of the goal by other members. 3. To what extent do your values and goals overlap with the community's values and goals?	Dholakia et al. (2004), Shen et al. (2009) and (Zhou, 2011).

Multi-item Scale for Perceived Identification with the Brand

In order to measure customers' perceived identification in OBC, five items were selected. The first question was asked to indicate the degree of overlap between their identity and brand identity. Respondents answered this question using a 7-point completely different-completely similar Likert-type scale. In addition, the respondents were asked to indicate the degree of agreement using a 7-point strongly agree-strongly disagree Likert-type scale for the rest of the items. The items were selected from the studies of Bagozzi and Dholakia (2006), Lam et al. (2010), Hughes and Ahearne (2010) and Carlson et al. (2008).

Table 21 Multi-item Scale for Brand Identification

Variable	Items	References
Brand Identification	1. To what extent does your perception of who you are (i.e., your personal identity) overlap with your perception of what brand represents (i.e., brand identity)? 2. When someone praises the brand, it feels like a personal compliment. 3. I believe others respect me for my association with the brand. 4. I consider myself a valuable partner of the brand. 5. I feel like I am personally connected to the brand.	Bagozzi and Dholakia (2006), Lam et al. (2010), Hughes and Ahearne (2010) and Carlson et al. (2008).

Multi-item Scale for Perceived Identification with the Community

In order to measure the consumers' perceived identification with community in OBC, five items were selected. The respondents were asked to indicate the degree of agreement using a 7-point

strongly-agree, strongly-disagree Likert-type scale. The items were selected from the studies of Shen et al. (2009), Carlson et al. (2008) and Lam et al. (2010).

Table 22 Multi-item Scale for Community Identification

Variable	Items	References
Community Identification	1. I am very attached to the brand community.	Shen et al. (2009), Carlson et al. (2008) and Lam et al. (2010).
	2. I see myself as a part of the brand community.	
	3. I am an important member of the brand community.	
	4. I am a valuable member of the brand community.	
	5. I see myself as belonging to the brand community.	

Multi-item Scale for Customer Engagement in the Online Brand Community

As the main objective of the current research is to develop a reliable and valid customer engagement scale, Chapter Six is devoted to presenting a detailed discussion on the construct scale development process. However, the final items are outlined here for each dimension in order to have all the measures used in the current research together.

Table 23 Multi-item Scale for Customer Engagement

Variable	Items	References
Customer Engagement	**Co-developing (Brand influence)**	Baldus et al. (2015)
	1. I am motivated to participate in the brand community because I can help to improve the brand and its products.	
	2. I like to know that my comments and suggestions can influence the brand and its products.	
	3. Increasing the influence I have on the brand and its products makes me want to participate more in the brand community.	
	4. I hope to improve the brand or product through my participation and expression in the brand community.	
	Sharing (Helping)	
	1. I like participating in the brand community because I can use my experience to help other people	
	2. I like to share my experience and knowledge with others in this brand community to help them be more educated about the brand	
	3. I really like helping other community members with their questions	
	4. I feel good when I can help to answer other community members' questions	
	Learning (Seeking assistance)	
	1. I am motivated to participate in the brand community because I can receive help from other community members.	
	2. I am motivated to participate in the brand community because community members can use their knowledge to help me.	
	3. I like participating in the brand community because it gives me an opportunity to receive help from other community members.	
	4. It is important to me to be able to use the brand community to find answers to my questions about the brand.	
	Socialising	
	1. I use the brand community to communicate with people who share the same interest as me	
	2. Having conversation with other members who share the same opinion in the OBC is interesting	
	3. It is important for me to have conversation with other members in the OBC who share the same opinion	
	Advocating	
	1. I promote the brand through my participation in the OBC	
	2. This is my preferred brand that can be seen in my participation about the brand	
	3. When asked, I recommend the brand to other members of the OBC	

Multi-item Scale for Customer Satisfaction

In order to measure customer satisfaction in the online brand community, three items were selected. The respondents were asked to indicate the degree of agreement using a 7-point

strongly-agree, strongly-disagree Likert-type scale. The items were selected from the studies of McKinney et al. (2002), Palmatier et al. (2006) and LaBarbera and Mazursky (2013).

Table 24 Multi-item Scale for Customer Satisfaction

Variable	Items	References
Customer Satisfaction	1. The content of the OBC matches exactly with my interests.	McKinney et al. (2002), Palmatier et al. (2006) and LaBarbera and Mazursky (2013) .
	2. I am satisfied with my decision to become a member of the OBC.	
	3. The OBC's information content meets my needs.	

Multi-item Scale for Brand Loyalty

In order to measure brand loyalty in the online brand community, four items were selected. The respondents were asked to indicate the degree of agreement using a 7-point strongly-agree, strongly-disagree Likert-type scale. The items were selected from the studies of Nam et al. (2011).

Table 25 Multi-item Scale for Brand Loyalty

Variable	Items	References
Brand Loyalty	1. I encourage relatives and friends to buy the products and services of the brand.	Gummerus et al. (2012) and Nam et al. (2011).
	2. I consider the brand as my number one choice.	
	3. It is very important for me to buy the products and services of this particular brand rather than other brands.	
	4. I intend to buy the other products of this brand in future.	

5.7 Computer Tools for Data Analysis

As mentioned before, the current research uses IBM SPSS version 22.0 for data analysis, particularly for screening the data. Required options to deal with the mentioned issues related to the data screening are provided in this package. In addition, Amos 22.0 is used to perform some analysis regarding the data screening such as outliers, and importantly this software is used for SEM analysis and CFA.

5.8 Ethics and Privacy

It is important to behave ethically when conducting a survey, like other social research. Mason and Suri (2012) stated, "It is the researcher's responsibility to ensure that appropriate steps are taken to conduct ethical research". There are two main ethical issues regarding conducting a survey. First, Willis (2005) noted the invasion of privacy as a major ethical issue in survey research. It is a right for respondents to have privacy. It is their right about when or to whom they reveal their information. The second issue is about voluntary participation by respondents. Respondents can leave the questionnaire at any time and refuse to participate in it. Therefore, the participants have given their 'informed consent' before answering the questions. Furthermore, there are two issues related to the AMT: debriefing and confidentially.

It is necessary to ensure that the workers understand the research's purpose at the end of survey and the researcher's contact details are provided in the event of questions. Therefore, a debriefing statement was provided at the beginning and end of the survey with the researcher's details so that the workers can ask any questions or if they want to make a complaint. Regarding confidentiality, the worker IDs contain anonymised strings and personally identifiable information is not included. The other important issue is about the data stored by the AMT. However, as the current research used an outside service for construction of the survey, the collected data is therefore not stored in the AMT.

In order to conduct the current research, an ethics application was sent to the University of Salford Ethics Committee (Attached as appendix). There was no objection on ethical grounds to the current research by the ethics panel at the university. Therefore, the current research was conducted in accordance with the ethical approval provided by the university.

5.9 Summary

The methodology chapter has included considerations regarding the research design. The considerations with respect to the philosophical paradigm and the research method were explained. Then the research design of the current research was presented. The two-stage research design including three phases was employed in order to develop the scale. The first phase involved the item generation, which is explained in the next chapter. The second phase included one study with the objective of purifying the generated items in the first phase. In addition, the purpose of the first study was to provide initial evidence of the scale validity and reliability. The third phase included the second study with a new independent sample. The aim of the second study was to re-examine the validity (convergent and discriminant) of the construct and provide initial nomological validity. Moreover, the second study was designed to test the proposed model of customer engagement in the online brand community including potential antecedents and consequences. Sampling process, questionnaire design and quantitative analysis procedures were presented in detail for both studies.

The other important part of this chapter has been dedicated to the Amazon Mechanical Turk. The online survey was conducted on the AMT and the advantages and disadvantages of using this tool have been presented. This chapter ended with a section on the ethical consideration regarding conducting an online survey. The next chapter presents the first and second phases of the scale development process.

Chapter Six

Item Generation and Scale Development

6.1 Introduction

The previous chapter has presented the adopted methodology of the current research. Regarding the objective of the current research, to develop a reliable and valid customer engagement scale, a two-stage research design including three phases was suggested. In addition, Chapter Four discussed the development of a customer engagement concept in the marketing literature. Then, the proposed customer engagement construct, which is adopted from the theoretical study by Brodie et al. (2013), was discussed and it was suggested that customer engagement is a multi-dimensional construct. The five dimensions: socialising, learning, discussion, co-developing and advocating, were explained and the similar dimensions in a newly published study by Baldus et al. (2015) including learning, discussion and co-developing were discussed. This was followed by a discussion on the comparison between the current study and the study by Baldus et al. (2015), which is both unique and the latest study regarding customer engagement in the online brand community. As mentioned, the three dimensions that are also explored in the study, brand influence, seeking assistance and helping, were adopted and two more dimensions, advocating and discussion, are added, making five proposed dimensions to the customer engagement concept. This chapter presents the first and second phases of the scale development processes. Then the result of the sequential scale development processes is presented in separate sections. Particularly, this chapter addresses the third research objective: "***To develop a reliable and valid measurement scale of the customer engagement construct.***"

The first phase includes the different techniques regarding assessment of content validity of items generated. In this phase, an item pool generated by the researcher's group is presented and the expert item judging is discussed. The second phase explains the study conducted to collect data for scale development. The analyses employed in the first study are then discussed. This section presents the exploratory factor analysis and confirmatory factor analysis utilised in this study. Finally, this chapter ends with a refined 18-item, five-factor customer engagement construct for further assessment of dimensionality, reliability and validity in the next chapter.

6.2 Phase 1 – Expert Item Judging

This section aims to explain the two stages of the generation of the initial item pool, which is validated through expert item judging. Regarding phase 1, the method proposed by Anderson (1991) was followed in order to assess the content validity of the generated initial item pool. As mentioned before, the items for three dimensions were adopted from the study by Baldus et al. (2015), and this section explains the procedure in order to validate the items for the two other dimensions, which are 'advocating' and 'discussion'. Table 25 shows the items for the three dimensions, 'sharing', 'co-developing' and 'learning.

Table 26 Adopted Items of 'Sharing', 'Co-developing' and 'Learning' from Baldus et al. (2015)

Variables (variable name in Baldus et al.'s study)	Validated Items	Reference
Sharing (Helping)	1. I like participating in the brand community because I can use my experience to help other people 2. I like to share my experience and knowledge with others in this brand community to help them be more educated about the brand 3. I really like helping other community members with their questions 4. I feel good when I can help answer other community members' questions	Baldus et al. (2015)
Co-developing (Brand Influence)	1. I am motivated to participate in the brand community because I can help to improve the brand and its products 2. I like to know that my comments and suggestions can influence the brand and its products 3. Increasing the influence I have on the brand and its products makes me want to participate more in the brand community 4. I hope to improve the brand or product through my participation and expression in the brand community	
Learning (Seeking Assistance)	1. I am motivated to participate in this brand community because I can receive help from other community members 2. I am motivated to participate in this brand community because community members can use their knowledge to help me 3. I like participating in this brand community because it gives me an opportunity to receive help from other community members 4. It is important to me to be able to use this community to find answers to my questions about the brand	

6.2.1 Content Validity Assessment

The main objective of this section is to generate specific items for the 'advocating' and 'socialising' dimensions of customer engagement, and select the items that have content validity. The first step in generating the items to reflect the customer engagement is to generate the item pool. A large pool of potential items was created through a research team with two other Salford doctoral students who are conducting their research in digital marketing. In total, 30 items were created after two sessions for the 'advocating' and 'socialising' dimensions. Once the initial item pool was generated, the research team and a British PhD student met in order to assess the face validity and also to eliminate redundant items. The result of these three sessions was the selection of 20 items with good face validity, which were ready for expert review. Thus, the item screening generated a reduced pool of 20 customer engagement items.

A panel of eight doctoral students and two marketing academics were asked to participate in an experience survey (see appendix) to assess the content validity of the items generated from the first step. The eight doctoral students were recruited from the universities of Manchester and Salford. All panel members received guidance including the definitions of the construct and the proposed dimensions. In addition, all members participated in an in-person meeting to avoid any possible confusion about the survey. The desired construct and the related field of research were known to the researchers. Following the procedure proposed by Anderson and Gerbing (1991), the participants were asked to assign the items generated from the first step to the dimension that each reflected very well. In addition, an option was provided for those items that are not reflected in either of the proposed dimensions, which was a 'not applicable' category.

The two indices, 'the proportion of substantive agreement' and 'substantive-validity coefficient', which are shown with (P_{sa}) and (C_{sv}) respectively, are used to assess the extent to which the items capture the full domain of the construct. These two indices are proposed by Anderson (1991) as an initial step by which to predict the performance of measures in a confirmatory factor analysis. The index (P_{sa}) is defined "as the proportion of respondents who assign an item to its intended construct" (Anderson, 1991). According to the definition, 'the proportion of substantive agreement' is calculated by this formula ($Psa = nc/ N$), where nc represents the number of participants who assigned an item to its closely reflected dimension, and N stands for the total number of respondents who participated in the survey. The formula shows that the values of Psa

range from 0.0 to 1.0 as the number of respondents who assign the item to a dimension is less than or equal to the total number of respondents.

The other index explains the degree to which respondents assign an item to its related dimension more than any other dimension. In fact, the index (C_{sv}) determines the degree to which an item might be representing another dimension. Thus, this index illustrates a more accurate prediction for content validity of a construct. "The substantive-validity coefficient" is defined as per the following formula, $C_{sv} = (n_c - n_0)$, where C_{sv} and n_c have the same definition as stated in the explanation of P_{sa} and n_0 "represents the highest number of assignments of the item to any other dimension" (Anderson and Gerbing, 1991: 734). According to the formula, the values of C_{sv} range from -1.0 to 1.0, with larger values representing greater substantive validity. It is important to mention that negative values would indicate that the item is represented by another construct, not the construct posited by the respondents.

Consistent with the proposed approach by Anderson and Gerbing (1991), the mentioned indices were calculated. Then the items with values of 0.5 and greater were retained and those items that did not meet the minimum level of significance were dropped. Table 26 shows the result of this stage of content validity, which is in line with Anderson and Gerbing's (1991) approach.

Table 27 Results of Expert Item Judging

Item	C_{sv}	P_{sa}	Decision
I actively promote the brand through my participation and expression in the brand	7/10 = 0.7	(7-1)/10 = 0.6	Rephrased
I strongly recommend the brand to other member of the OBC	8/10 = 0.8	(8-0)/10 = 0.8	Rephrased
This brand is my preferred one that can be obviously seen in my participation in the OBC	10/10 = 1.0	(10-0)/10 = 1.0	Retained
To me, this is my first choice brand	4/10 = 0.4	(4-0)/10 = 0.4	Dropped
I participate in OBC to encourage others to use this brand	8/10 = 0.8	(8-1)/10 = 0.7	Rephrased
Brand X is the only choice for me to buy	3/10 = 0.3	(3-0)/10 = 0.3	Dropped
I am really interested to discuss my views about the brand with others	8/10 = 0.8	(8-0)/10 = 0.8	Retained
Conversation with others in this brand community is enjoyable	10/10 = 1.0	(10-0)/10 = 1.0	Retained
Participation in this brand community helps me to discuss about different topics with others who have similar interests	9/10 = 0.9	(9-1)/10 = 0.8	Rephrased
I show my interest to the brand through my participation in the brand community	7/10 = 0.7	(7-1)/10 = 0.7	Retained
It is important to me to have conversation with other members in the OBC who share the same opinion about the brand	8/10= 0.8	(8-2)/10 = 0.6	Rephrased
Having conversation with other members who share the same opinion in the OBC is interesting	10/10 = 1.0	(10-0)/10 = 1.0	Retained
When asked, I recommend the brand to other members of the OBC	9/10 = 0.9	(9-0)/10 = 0.9	Retained
I use the brand community to communicate with people who share the same interest as me	10/10 = 1.0	(10-0)/10 = 1.0	Retained
I have learnt how to communicate with other members of the community during my participation	9/10 = 0.9	(9-0)/10 = 0.9	Rephrased
Community members and I have a lot in common	3/10= 0.3	(3-0)/19 = 0.3	Dropped
Communication with other members in the OBC makes me happy	6/10 = 0.6	(6-0)/10 = 0.6	Retained
I am proud to recommend the brand to other members of the OBC	8/10 = 0.8	(8-0)/10 = 0.8	Retained

Promotion of the brand in the OBC is important to me	4/10 = 0.4	(4-1)/10 = 0.3	Dropped
I have a good time during my conversation with people similar to myself in OBC	7/10 = 0.7	(7-0)/10 = 0.7	Retained

As it is illustrated in Table 26, the two indices are computed, which leads to four items with Csv < 0.5 being dropped. As mentioned, those were items that did not meet the minimum acceptance value and cause confusion regarding the dimension the item best describes. There are 10 items that meet the level of significance. The values of C_{sv} for these 10 items were greater than 0.5, which determines that these 10 indicators were mostly assigned to the intended construct rather than to another. Then, six other items with $C_{sv} > 0.5$ were reworded based on the suggestions of the panel members during the final discussion after stage 1. These items are shown in Table 27. The rest of the items, which the majority of the experts correctly assigned to the intended construct, were retained for further testing. The number of items was reduced from 20 to 16.

Table 28 Rephrased Items Based on Expert Item Judging

Dimension	Actual item	Modified item
Advocating	I actively promote the brand through my participation and expression in the brand	I promote the brand through my participation in the brand
	I strongly recommend the brand to other member of the OBC	I recommend the brand to other members of the OBC
	I participate in OBC to encourage others to use this brand	I participate in OBC to encourage others to buy from this brand
Socialising	It is important to me to have conversation with other members in the OBC who share the same opinion about the brand	It is important for me to have conversation with other members in the OBC who share the same opinion about the brand
	I have learnt how to communicate with other members of the community during my participation	I have learnt how to communicate with other members of the OBC during my participation
	Participation in this brand community helps me to discuss about different topics with others who have similar interests	I am motivated to participate in the online brand community to discuss about different topics with others who have similar interests

6.3 Phase 2 – Scale Development Study

In this section, the analyses of phase 2 of the scale development are presented. The five proposed dimensions for customer engagement with a 28-item pool comprise four items for 'co-developing', four items for 'sharing', four items for 'learning', nine items for 'socialising' and seven items for 'advocating'. As mentioned, the items of three first-order constructs, 'learning', 'co-developing' and 'socialising', are adopted from the latest published study by Baldus et al. (2015) and the items of the other two first-order constructs are developed through phase 1. This study follows the procedure for developing better measures that is suggested by Churchill (1979). Netemeyer et al. (2003) and Hair et al. (2010) suggest procedures for measures development that are the same as Churchill's procedure in nature. The first study is designed to purify the measure and to further reduce the item pool reflecting the 'customer engagement' construct. The main objective of this study is to examine the question: How many 'customer engagement' dimensions exist? To achieve this objective, the data set was collected through the Amazon Mechanical Turk service and all respondents were high-trust users to make sure about the quality of collected data. The analyses of the data set are presented as follows: Preliminary Data Analysis, Exploratory Factor Analysis and Confirmatory Factor Analysis.

6.3.1 Preliminary Data Analysis

6.3.1.1 Data Cleaning

The respondents for the data collection of the first study were recruited via the Amazon Mechanical Turk service (10 March 2015 – 23 March 2015). Three hundred respondents completed the questionnaire and all respondents answered all questions. The main reason for this was related to the recruitment of high-trust respondents through the AMT. Thus, there were no missing responses in the data exported from the Bristol Online Survey, which was used to design the questionnaire, and therefore there was no need for analysis regarding missing values in this study. The following four techniques were used in the questionnaire to increase the quality of collected data:

- Two questions were placed in the survey regarding the online brand community where the respondents had to enter the name and an approximate number of community members. The responses were compared with the actual community to make sure that

the respondents have some information about the community. Of the 300 respondents who completed the survey, 17 did not indicate the correct data, either the name of the community or the number of community members. These 17 respondents were immediately dropped from the study.

- Another statement was placed to make sure that the respondents were reading the questions carefully. The question was "Please select strongly agree for this question and then continue" and seven responses in Likert format (Strongly agree = 1 and Strongly disagree = 7) were provided. Of the 283 remaining respondents, 11 selected other answers and so they were removed from the study.
- The answer pattern provided by respondents was carefully observed. Twelve respondents were removed from the study in order to improve the quality of the data.
- The average time to complete the questionnaire was computed by the AMT (Time = 14:08). Nine of the remaining respondents were screened for speeding through survey questions. Although they passed all the above tests, their responses were categorised as low quality and were removed from the data set. In total, 251 responses remained for the following data screening procedure.

6.3.1.2 Test of Outliers

As discussed in Section 5.5.2.5, boxplots and Z-scores were used as two important methods to identify the potential outliers or extreme responses. According to Hair et al. (2010), the acceptance range for the large samples is ± 3.29. The result showed that the majority of the cases were placed in this range. There were three cases with 3.18 z-scores for item "It is important for me to have conversation with other members in the OBC who share the same opinion about the brand". These three cases were considered for further analysis using the boxplots method to identify if they could be detected as outliers. Table 28 shows the potential outliers detected using the boxplots.

Table 29 Assessment of Outliers Using Boxplot

Item	Case Number
I recommend the brand to other members of the OBC	49, 60, 68, 71, 103, 201, 209
I am proud to recommend the brand to other members of the OBC	32,56,87
This brand is my preferred one that can be obviously seen in my participation in the OBC	22,45,83,90

The detected outliers were related to the following three items: "I recommend the brand to other member of the OBC", "I am proud to recommend the brand to other members of the OBC" and "This brand is my preferred one that can be obviously seen in my participation in the OBC". As it is completely normal to find some respondents who 'extremely agree' or 'extremely disagree', they were not considered unique. All respondents appear to be representative of the population and, consistent with the recommendation by Hair et al. (2010), all observations were kept for the next analysis.

6.3.1.3 Test of Normality

In order to assess the normality assumptions, this study, as previously stated followed the recommendations by Kline (2011) to use values of kurtosis and skewness. The positive and negative value ranges were computed for the skewness and they were from .018 to .933 and -.011 to -.738. Kurtosis was also calculated and the result was acceptable, which provided more evidence for normal distribution of the collected data. Regarding the kurtosis, the value ranged from − .176 to − 1.208. According to the recommendation by Hair et al. (2010), the obtained values for both skewness and kurtosis were below 2 and 7 respectively. The results indicated that the data were distributed more or less normally.

In addition, Kolmogorov-Smirnov and Shapiro-Wilk tests were performed for further examination of the normality assumption. The significant level of all items (P = 0.000) was obtained for both tests, as shown in Table 29. Although the values of kurtosis and skewness for all items provided evidence of normality, the results of both tests, K-S and S-W, show a deviation from normality. There are several considerations that need to be noted. First, among the non-graphical tests for normality, Stevens (2009) recommends a combination of skewness and kurtosis because "this allows for separation of the two types of normality violations". Second, Nunnally (1978) states:

"test scores are seldom normally distributed, even if the number of items is large. Because of the positive correlation among items, a normal distribution would not be obtained".

Third, there is strong evidence in the literature regarding the robustness of factor analysis estimators that shows exploratory factor analysis and confirmatory factor analysis are robust in respect to different types of non-normality (Field, 2013). In addition, Malthouse (2001) notes that the data distribution obtained from a 7-point scale is not normal. It is important to mention that the factor analysis is still an effective tool when the data are not normally distributed. Finally,

the existence of small deviations from normality does not influence the significance of the results for large samples (Gorsuch, 1983). There is an agreement that a sample size of greater than 200 (N > 200) is considered as a large sample (Field, 2013; Gorsuch, 1983; Hair et al., 2010; Netemeyer et al., 2003).

Table 30 Assessment of Normality Using Kolmogorov-Smirnov and Shapiro-Wilk

	Kolmogorov-Smirnov			Shapiro-Wilk		
Items	Statistic	df	Sig	Statistic	df	Sig
Soc-1	.170	251	.000	.904	251	.000
Soc-2	.164	251	.000	.922	251	.000
Soc-3	.201	251	.000	.894	251	.000
Soc-4	.221	251	.000	.912	251	.000
Soc-5	.118	251	.000	.932	251	.000
Soc-6	.152	251	.000	.883	251	.000
Soc-7	.148	251	.000	.890	251	.000
Soc-8	.173	251	.000	.927	251	.000
Soc-9	.164	251	.000	.913	251	.000
Advo-1	.205	251	.000	.926	251	.000
Advo-2	.265	251	.000	.898	251	.000
Advo-3	.145	251	.000	.914	251	.000
Advo-4	.131	251	.000	.935	251	.000
Advo-5	.143	251	.000	.886	251	.000
Advo-6	.176	251	.000	.892	251	.000
Advo-7	.165	251	.000	.924	251	.000
Co-d1	.210	251	.000	.906	251	.000
Co-d2	.209	251	.000	.925	251	.000
Co-d3	.113	251	.000	.896	251	.000
Co-d4	.153	251	.000	.915	251	.000
Learn-1	.141	251	.000	.935	251	.000
Learn-2	.175	251	.000	.888	251	.000
Learn-3	.168	251	.000	.890	251	.000
Learn-4	.207	251	.000	.923	251	.000
Share-1	.226	251	.000	.902	251	.000
Share-2	.115	251	.000	.928	251	.000
Share-3	.153	251	.000	.899	251	.000
Share-4	.142	251	.000	.913	251	.000

6.3.2 Exploratory Factor Analysis (EFA)

The objective of this section is to purify the 'Customer Engagement' scale and identify the underlying latent factors. In order to analyse the data, Two exploratory factor analytic procedures were adopted, principal component analysis and principal axis factoring. There are three main steps as requirements when conducting EFA that indicate the appropriateness of the data: sample size, KMO test and Bartlett's test of sphericity. As a general rule regarding the sample size, Hair et al. (2010) suggest the minimum is to have at least five times as many observations as the number of variables to be analysed. Therefore, having 28 items and a total number of 251 responses was considered satisfactory to analyse the data using EFA. The discussion about sample size was presented in Section 5.5.2.2. Secondly, the extent of inter-correlations among variables was examined by KMO (Kaiser-Meyer-Olkin). The result reported a KMO statistic of 0.902 for the overall data set, which suggests the suitability of EFA. Thirdly, Bartlett's test of sphericity was conducted to examine the correlation among the variables. Bartlett's test of sphericity for the correlation matrix: $\chi2$ (16) = 1276.792 (p = 0.000), which indicates the existence of large correlations among the variables. The satisfying results of these three steps indicated the appropriateness of the data for factor analysis.

The fundamental requirements were explored prior to conducting factor analysis. The selection of factor extraction methods is the next step to be explained. Based on the recommendation by Netemeyer et al. (2003) and Hair et al. (2010), alternative solutions should be considered at this exploratory stage to lead to the best representation of the data. Consequently, the two most common methods were employed for factor extraction: principal component analysis and principal axis factoring (Hair et al., 2010). In addition, promax rotation was used as it was assumed a priori that the underlying factors were related to each other. Using both methods of factor extraction generates the best and the clearest solution.

SPSS 22.0 was used to perform the principal component analysis with promax rotation on the initial 28 items and the numbers of factors to be extracted were not restricted. The number of extracted factors were determined based on the eigenvalues, scree test plot and explained variance. Based on Cattell (1966), the scree in the scree plot at five factors was observed as the proposed five-factor model of 'customer engagement' in the current research. In the pattern matrix, Hair et al. (2010) recommend a critical factor loading of 0.50 to achieve significance (p<0.05). Therefore, this study employed a factor loading of 0.50 as the minimum cut-off. In

addition, the items that exhibited cross loading greater than 0.30 or communalities less than 0.5 were dropped. Based on this analysis, nine items were removed through an iterative process. Specifically, four items were removed as they did not meet the critical factor loading of 0.5, three items with communalities of less than 0.5 were dropped and two items were loaded on more than one factor. The iterative process ended with a clean five-factor solution accounting for 78% of the total variance, with no loadings < 0.5, no cross loadings > 0.3 and all communalities > 0.5. Each of the retained 19 items was loaded onto its intended factor while six items of 'socialising' and four items of 'advocating' were removed. The three remaining proposed 'socialising' items were loaded on factor 1, the three remaining proposed 'advocating' items were loaded on factor 2, the four proposed 'sharing' items were loaded on factor 3, the four proposed 'co-developing' items were loaded on factor 4 and finally the four proposed 'learning' items were loaded on factor 5.

Then a 19-item 'customer engagement' scale resulted from both principal component analysis and principal axis factoring. Corresponding to the proposed dimensions of this study and theoretical foundations, the analysis determined five factors to explain dimensionality of the 'customer engagement' construct. Consequently, 10 items were chosen to be left behind in order to move on to the next step of the scale development process, which is explained in the next sections including reliability test and confirmatory factor analysis. Table 31 shows the results from principal axis analysis using a promax rotation.

Table 31 Extraction Method: Principal Axis Analysis, Rotation Method: Promax with Kaiser Normalisation

	Factor Loadings					
Items	Sharing	Co-developing	Learning	Advocating	Socialising	Communalities
I like participating in the brand community because I can use my experience to help other people	.874					.689
I like to share my experience and knowledge with others in this brand community to help them be more educated about the brand	.765					.773
I really like helping other community members with their questions	.933					.843
I feel good when I can help answer other community members' questions	.803					.703
I am motivated to participate in the OBC because I can help to improve the brand and its products		.794				.670
I like to know that my comments and suggestions can influence the brand and its products		.751				.819
Increasing the influence I have on the brand and its products makes me want to participate more in the OBC.		.863				.792
I hope to improve the brand or product through my participation and expression in the OBC.		.775				.770
I am motivated to participate in this brand community because I can receive help from other community members			.924			.789
I am motivated to participate in this brand community because community members can use their knowledge to help me			.943			.643
I like participating in this brand community because it gives me an opportunity to receive help from other community members			.887			.767
It is important to me to be able to use this community to find answers to my questions about the brand			.867			.692
I promote the brand through my participation in the brand				.883		.655
When asked, I recommend the brand to other members of the OBC				.858		.695
This is my preferred brand that can be seen in my participation in the OBC				.720		.779
I use the brand community to communicate with people who share the same interest as me					.742	.833
It is important for me to have conversation with other members in the OBC who share the same opinion about the brand					.832	.790
Having conversation with other members who share the same opinion in the OBC is interesting					.817	.685
I have learnt how to communicate with other members of the OBC during my participation					.843	.732
Percentage of Variance	61%	7.5%	5%	2.8%	2%	

6.3.3 Reliability and Item Statistics

Following Churchill (1979), the next step in the scale development process is to purify the measure and to assess the internal consistency of subscales. The rationale for internal consistency is that the individual items or indicators of the scale should all be measuring the same construct and thus be highly inter-correlated (Hair et al., 2010). The objective of this section is to conduct reliability and item analysis for each of the five dimensions of the 'customer engagement' construct. The 28 items retained from the previous scale development processes are used for the following test. With respect to the reliability test, the corrected item-total correlation, inter-item correlation range and Cronbach's alpha were calculated to indicate the poorly performing items and consequently remove them. Table 32 shows the result of the reliability test that corrected item-total correlation of all dimensions' disclosed values from 0.743 to 0.892 and inter-item correlations ranged from 0.606 to 0.792.

Following the recommendation by Hair et al. (2010), rules of thumb suggest that the item-total correlations exceed 0.50 and that the inter-correlations exceed .30; also, the generally agreed lower limit for Cronbach's alpha is 0.70. The results show that all item values regarding item-total correlations and inter-correlations are greater than 0.50 and 0.30 respectively. In addition, computed Cronbach's alphas for the five dimensions demonstrate a high level of internal consistency within each dimension. Cronbach's alpha for the factors of sharing, learning, co-developing, socialising and advocating were 0.932, 0.903, 0.944, 0.924 and 0.913 respectively. All mentioned values satisfy the threshold of 0.70, as recommended by Netemeyer et al. (2003). Thus, all 28 items remained for further analysis and no items were dropped at this stage.

Table 32 Reliability and Item Analysis

Factor and Items	Corrected Item-Total Correlation	Inter-Item Correlation Range	Cronbach's Alpha if Item Deleted	Cronbach's Alpha
Sharing		.641 - .792		.932
Share-1 I like participating in the brand community because I can use my experience to help other people	.748		.953	
Share-2 I like to share my experience and knowledge with others in this brand community to help them be more educated about the brand	.792		.924	
Share-3 I really like helping other community members with their questions	.856		.890	
Share-4 I feel good when I can help answer other community members' questions	.892		.882	
Co-developing		.651-.783		.944
Co-d1 I am motivated to participate in the brand community because I can help to improve the brand and its products	.832		.912	
Co-d2 I like to know that my comments and suggestions can influence the brand and its products	.743		.935	
Co-d3 Increasing the influence I have on the brand and its products makes me want to participate more in the brand community	.817		.886	
Co-d4 I hope to improve the brand and product through my participation and expression in the brand community	.835		.890	
Learning		.673-.758		.903
Learn-1 I am motivated to participate in the brand community because I can receive help from other community members	.836		.868	
Learn-2 I am motivated to participate in the brand community because community members can use their knowledge to help me	.781		.876	
Learn-3 I like participating in this brand community because it gives me an opportunity to receive help from other community members	.824		.844	
Learn4 It is important to me to be able to use this community to find answers to my questions about the brand	.841		.853	
Socialising		.663-.790		.924
Social-4 I use the brand community to communicate with people who share the same interest as me	.878		.862	
Social-7 Having conversation with other members who share the same opinion in the OBC is interesting	.817		.903	
Social-8 It is important for me to have conversation with other members in the OBC who share the same opinion	.788		.921	
Social-9 I have learnt how to communicate with other members of the OBC during my participation	.756		.932	
Advocating		.606-739		.913
Adv-1 I promote the brand through my participation and expression in the OBC	.871		.854	
Adv-2 This is my preferred brand that can be seen in my participation about the brand	.793		.906	
Adv-3 When asked, I recommend the brand to other members of the OBC	.836		.837	

6.3.4 Confirmatory Factor Analysis

The objective of this section is to refine (if required) and confirm the preliminary, 19-item scale. Confirmatory factor analysis (CFA) was conducted using Amos 22.0 to estimate a 19-item, five-dimensional factor model. The CFA was employed in order to fit the model to the data using maximum likelihood estimation. The assessment of model fix indices are presented in Table 33. As shown in Table 33, the results from the assessment of model fit were satisfactory. However, one item was a candidate for removal through inspection of the modification indices. Specifically, the item '**social-9 = I have learnt how to communicate with other members of the OBC during my participation**' was loaded on two dimensions, 'sharing' and 'socialisation'. The iterative process ended with a five-factor model consisting of 18 items, with no items exhibiting modification indices greater than four or standardised residuals greater than two. After removal of the candidate item, an 18-item, five-dimensional factor model was estimated again using Amos 22.0. The remaining 18 items then comprise: four sharing items, four learning items, four co-developing items, three socialising items and three advocating items. Model fit indices are presented in Table 33 and the results have improved. In addition, item loadings and t-values for the CFA model are presented in Table 34 and the results indicate highly significant item loadings.

Table 33 Model Fit Indices for a 19-Item Factor

Model Fit Indices		GFI	CFI	TLI	RMSEA
Proposed Five-dimensional Model	$\chi 2$ (52) = 462.545, p = .000; Normed Chi- Square= 2.853	.938	.985	.968	.057
Rules of thumb		>.90 Moderate	>.95 Great	>.95 Great	<.06 Moderate

Table 34 Model Fit Indices for an 18-Item Factor

Model Fit Indices		GFI	CFI	TLI	RMSEA
Proposed Five-dimensional Model	$\chi 2$ (78) = 362.545, p = .000; Normed Chi-Square= 2.372	.958	.989	.974	.047
Rules of thumb		>.9 Good	>.95 Great	>.95 Great	<.05 Good

Figure 16 Customer Identification 10 Five-Factor Model (The First Study)
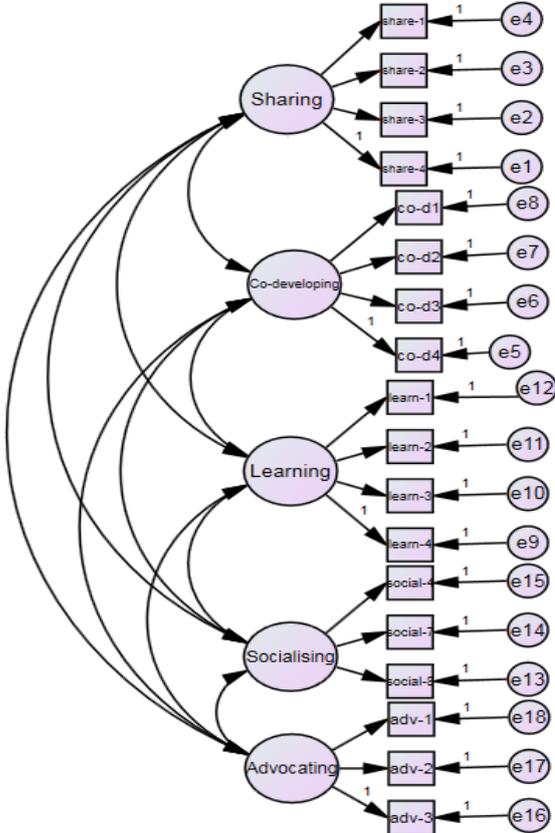
Table 35 Item Loadings for the Five-Factor CFA model - Coefficient Standard Errors and t-values

Factor and Items	Standardised	Unstandardised	S.E	t-values
Sharing				
Share-1 I like participating in the brand community because I can use my experience to help other people	.848	.996	.031	24.440
Share-2 I like to share my experience and knowledge with others in this brand community to help them be more educated about the brand	.892	.987	.032	25.015
Share-3 I really like helping other community members with their questions	.856	1.003	.033	25.607
Share-4 I feel good when I can help answer other community members' questions	.871	1.000		
Co-developing				
Co-d1 I am motivated to participate in the brand community because I can help to improve the brand and its products	.832	.957	.032	31.554
Co-d2 I like to know that my comments and suggestions can influence the brand and its products	.843	.963	.031	31.778
Co-d3 Increasing the influence I have on the brand and its products makes me want to participate more in the OBC	.917	1.024	.032	32.089
Co-d4 I hope to improve the brand or product through my participation and expression in the brand community	.835	1.000		
Learning				
Learn-1 I am motivated to participate in this brand community because I can receive help from other community members	.836	.943	.033	25.631
Learn-2 I am motivated to participate in the brand community because community members can use their knowledge to help me	.881	.996	.031	28.144
Learn-3 I like participating in this brand community because it gives me an opportunity to receive help from other community members	.824	.910	.031	30.257
Learn4 It is important to me to be able to use this community to find answers to my questions about the brand	.841	1.000		
Socialising				
Social-4 I use the brand community to communicate with people who share the same interest as me	.878	.971	.033	30.872
Social-7 Having conversation with other members who share the same opinion in the OBC is interesting	.817	.896	.033	30.392
Social-8 It is important for me to have conversation with other members in the OBC who share the same opinion	.888	1.000		
Advocating				
Adv-1 I promote the brand through my participation in the OBC	.871	.968	.032	25.667
Adv-2 This is my preferred brand that can be seen in my participation about the brand	.893	.982	.031	57.408
Adv-3 When asked, I recommend the brand to other members of the OBC	.836	1.000		
Probability < .001				

6.3.4.1 Convergent Validity

The objective of this section is to examine convergent validity to assess the degree to which two measures of the same factor are correlated. High correlation indicates that the scale is measuring its intended dimension. According to the suggestion by Hair et al. (2010) and Fornell and Larcker (1981), the current research used three criteria in order to evaluate the convergent validity of preliminary five factor, 18-item 'customer engagement' scale. First, standardised loading estimates should be 0.5 or greater, and ideally 0.7 or greater; second, average variance extracted should be 0.5 or greater to suggest adequate convergent validity; and third, construct reliability (CR) should be 0.7 or higher to indicate adequate convergence or internal consistency.

As all factor loadings presented in Table 36 were above .7 and all were significant with t-values ranging from 17.3 to 33.7 (p < 0.000), the analysis provided evidence for the convergent validity of the scales. Thus, the relationship between all five first-order factors (sharing, co-developing, learning, advocating and socialising) with the 'customer engagement' (second-order factor) is strong. Following the formulas by Fornell and Larcker (1981), CR and AVE were calculated for all five dimensions. Table 37 displays the results of computed CR and AVE. As is shown, all composite reliability was above the recommended level of 0.7, which indicates adequate convergence (ranged from 0.841 to 0.937). In addition, the AVE exceeded the 0.50 (rule of thumb) and provides further evidence to support the convergent validity of the scales. Overall, the analysis reported in this section provides evidence for the convergent validity of the second-order factor model with the five first-order factors.

Table 36 Standardised Loadings (t-value) for the Five First-Order Latent factors and Second-Order Latent Factor

Variable	Sharing	Learning	Co-develop	Socialising	Advocating	Second-order (CE)
Share-1 I like participating in the brand community because I can use my experience to help other people	.872					
Share-2 I like to share my experience and knowledge with others in this brand community to help them be more educated about the brand	.868(26.1)					
Share-3 I really like helping other community members with their questions	.839(23.3)					
Share-4 I feel good when I can help answer other community members' questions	.821 (24.1)					
Co-d1 I am motivated to participate in the brand community because I can help to improve the brand and its products			.881			
Co-d2 I like to know that my comments and suggestions can influence the brand and its products			.892(31.2)			
Co-d3 Increasing the influence I have on the brand and its products makes me want to participate more in the brand community			.873(32.3)			
Co-d4 I hope to improve the brand or product through my participation and expression in the brand community			.857(30.6)			
Learn-1 I am motivated to participate in this brand community because I can receive help from other community members		.835				
Learn-2 I am motivated to participate in the brand community because community members can use their knowledge to help me		.841(24.3)				
Learn-3 I like participating in this brand community because it gives me an opportunity to receive help from other community members		.828(23.5)				
Learn4 It is important to me to be able to use this community to find answers to my questions about the brand		.833(23.4)				
Social-4 I use the brand community to communicate with people who share the same interest as me				.881		
Social-7 Having conversation with other members who share the same opinion in the OBC is interesting				.869(33.7) .857(31.2)		
Social-8 It is important for me to have conversation with other members in the OBC who share the same opinion				.805 .882(29.2)		
Adv-1 I promote the brand through my participation and expression in the OBC					.867	
Adv-2 This is my preferred brand that can be seen in my participation about the brand					.873(21.2)	
Adv-3 When asked, I recommend the brand to other members of the OBC					.866(17.3)	
Sharing **Learning** **Co-developing** **Socialising** **Advocating**						.832 .938(20.2) .889(18.8) .885(17.63) .776(14.81)

Table 37 AVE- Average Variance Extracted, CR- Composite Reliabilities, Construct Correlations and Square Root of AVE

	CR	AVE	1	2	3	4	5
Sharing (1)	0.898	0.773	**0.879**				
Learning (2)	0.908	0.765	0.854	**0.874**			
Co-developing (3)	0.859	0.706	0.677	0.578	**0.840**		
Socialising (4)	0.816	0.797	0.566	0.572	0.751	**0.893**	
Advocating (5)	0.901	0.753	0.767	0.829	0.651	0.523	**0.867**

6.3.4.2 Discriminant Validity

The next step in the construct validation process is the assessment of discriminant validity. Given the high correlation between all 'customer engagement' dimensions, it is important to assess the discriminant validity of the five CBI dimensions using different ways. First, as Table 37 displays, all square roots of average variance extracted (AVE) estimates (on the diagonal) exceeded the corresponding correlation estimates for each pair of dimensions, providing evidence of discriminant validity. Second, a series of chi-square difference tests was conducted by comparing a constrained model, where the correlation parameter between each pair of dimensions was fixed to one, to the unconstrained model (see Table 38). In every case, the chi-square of the unconstrained model was significantly lower than the chi-square of the constrained model, providing support for discriminant validity among all CE dimensions. Finally, the confidence interval for the correlation between each pair of dimensions did not include the value of one, showing further evidence of discriminant validity (see Table 39).

Table 38 Confidence Intervals for Correlation between each Pair of Dimensions

Competing Model	X^2	df	ΔX^2	Δ df	P
Unconstrained Model: Sharing/Learning	21.064	8			
Constrained Model: Sharing/Learning	80.571	9	59.507	1	0.000
Unconstrained Model: Sharing/Co-developing	20.106	11			
Constrained Model: Sharing/Co-developing	83.078	12	62.972	1	
Unconstrained Model: Sharing/Socialising	9.633	11			
Constrained Model: Sharing/Socialising	15.941	12	6.308	1	0.000
Unconstrained Model: Sharing/Advocating	42.016	7			
Constrained Model: Sharing/Advocating	102.089	8	60.073	1	
Unconstrained Model: Learning/Co-developing	13.078	4			
Constrained Model: Learning/Co-developing	48.830	5	35.752	1	0.013
Unconstrained Model: Learning/Socialising	35.089	1			
Constrained Model: Learning/Socialising	131.087	2	95.998	1	
Unconstrained Model: Co-developing/Advocating	.809	13			
Constrained Model: Co-developing/Advocating	34.709	14	33.900	1	0.000
Unconstrained Model: Co-developing/Socialising	21.609	4			
Constrained Model: Co-developing/Socialising	50.957	5	29.348	1	0.000

Table 39 Confidence Intervals for Correlation between each Pair of Dimensions

Parameter	Estimate	Lower	Upper
Sharing --------- Learning	.673	.621	.721
Advocating---------------Co-developing	.857	.834	.861
Learning--------------Advocating	.868	.842	.881
Advocating-----------Learning	.763	.738	.778
Sharing------------ Advocating	.818	.786	.838
Sharing----------- Socialising	.724	.692	.751
Socialising---------Co-developing	.701	.683	.730
Socialising-----------Learning	.826	.801	.841
Advocating----------Socialising	.873	.848	.882
Sharing--------Co-developing	.783	.731	.804

6.4 Summary

This chapter has presented the first two phases of the scale development process with the empirical results of each phase. The initial item pool was generated by the researcher and then the content validity of the generated items was assessed by expert item judging. Based upon this content validity assessment, a decision was made to reduce the number of items from 42 to 28. As a result, 28 items with appropriate content validity were generated for further analyses. Following this, a series of analyses were performed on the data set that was collected to develop and validate the CE scale.

First, EFA was performed on the first sample of consumers to initially purify the measure and identify the underlying latent factors for the construct. This resulted in the deletion of nine items and the emergence of five factors. Following this, CFA was employed to further refine the scale and reconfirm the factor structure suggested by EFA. As demonstrated by the empirical results, this resulted in a five-factor model consisting of 18 items with satisfactory model fit. Further, the results supported the convergent and discriminant validity of the newly proposed CBI scale. The next chapter presents the empirical results of the third phase of the scale development process. Specifically, the following chapter analyses the relationship between the CBI construct, using the newly developed scale, and the potential antecedents and consequences to examine the nomological validity of the scale. The model proposed in Chapter Four for the customer engagement process is tested in the next chapter and the related analyses to support our suggested hypotheses are presented.

<center>Chapter Seven</center>

<center># Final Stage: Validation of the Proposed Model and the Scale</center>

7.1 Introduction

The previous chapter has ascertained that 'Customer Engagement' (CE) is a second-order construct with five first-order dimensions: 'sharing', 'co-developing', 'learning', 'socialising' and 'advocating'. The preliminary 18-item CE scale was refined through the analysis in the previous chapter. The convergent and discriminant validity as well as reliability of the five dimensions were also tested in Chapter Six. The study confirmed the CE scale represents a valid, reliable and stable measurement instrument. In line with Anderson and Gerbing (1988), the focus of this chapter is on the final stage in the scale development process. The objective of Chapter Seven is to examine the CE scale within a nomological net of focal CE conceptual model and to test the research hypotheses developed in Chapter Three and conduct further scale validation. First, the final study including the pilot study and the main study is explained. Then, the analyses using both exploratory factor analysis and exploratory factor analysis are presented, which provide further assessment of dimensionality, reliability, convergent and discriminant validity of the CE construct. The measurement model assessment and structural model assessment are presented in the subsequent parts of this chapter once reliability and validity of the CE construct have been assessed. Confirmatory factor analysis is adopted in order to test the measurement model before proceeding to the structural equation modelling assessments.

7.2 Pilot Study

A pilot study was conducted on AMT before data collection for the second study. The reasons for conducting the pilot study via the AMT are outlined as follows:

- To obtain an estimate of the required time to complete the questionnaire
- To make sure that instructions are clear for respondents

- To find out whether there are any problems regarding the website through which the questionnaire was designed
- To estimate how long it takes to collect data from the desired sample size
- To obtain comments from the respondents in order to edit the questionnaire

At the end of the pilot study, six respondents sent emails and expressed their opinions about the questionnaire, which was very useful. Three of them suggested that the items regarding the 'group norm' were a bit confusing and it would be better if they were reworded. Surprisingly, one of them even suggested new sentences for them that, with some changes, were used for the second study. Respondent A suggested the below items for the group norm:

"Dear Requester, here is my suggestion for the section titled group norm, it seems confusing: a. the strength of the goals by ones b. average of the strength by other friends" (ID: 1005752, 1st April 2015)

As only high trust workers accessed this survey, another respondent suggested the advantages of conducting the study among a larger group, and he/she explained this as:

"Hi there, not sure if you are aware but your HIT is restricted to Masters qualified workers only. By using Masters, you 1) Severely limit the number of workers who can access your task, 2) Pay a 30% premium to Amazon, and 3) Exclude a lot of great workers!" (ID: 5505301, 1st April 2015)

Although the comment was really useful, it was not applicable for the current research. As the objective of the second study was to provide further evidence for the initial validation of the construct scale, high-trust workers were more reliable to participate in the survey.

Three other members, Respondents D, E and F, were not able to receive the compensation because the time allocated to complete the task was not enough for them. By the time they finished the questionnaire, the allocated time had expired and so they could not claim payment. They sent the following comments in this regard:

"I did your job very carefully. But I don't know what is the mistake. Anyway I will accept my mistake. Please revote my rejection" (ID: 2635462, 1st April 2015)

*"Hello, I completed the survey but the hit expired. My survey code is *****. I hope to be compensated"* (ID: 2637862, 1st April 2015)

*"Did your survey and came back to find the HIT had expired. Survey completion code: ****** Worker ID: ******. Any chance I could get credit, thanks for your time"* (ID: 2637702, 1st April 2015).

Firstly, after checking that they had completed the questionnaire, according to their given ID, they were paid. Secondly, it was decided to add five minutes to the estimated time for the survey

completion.

However, data were collected from 120 participants, and 110 questionnaires were completed and useful for analysis. There were 65 men (59.1 %) and 45 women (40.9) who participated in the survey; 63.6% of participants belong to an embedded community while 36.4% of them belong to OBC, which has its own website.

7.3 Preliminary Data Analysis

Once the pilot study had been conducted, which was followed by the required amendments, the final questionnaire was then uploaded on AMT in order to collect data. A link to the survey was posted on the researcher's profile on AMT and members were compensated in exchange for their participation in the survey. The final data collection was performed over two weeks, from 13 April 2015 to 27 April 2015. The number of respondents was set at 600 and the desired number of respondents completed the questionnaire in the mentioned period of time. This questionnaire was designed the same as a previous study using Bristol Online Survey (BOS) with a newly designed appearance. The data set was extracted in Excel format, which was facilitated in BOS, in order to import to SPSS 22.0 for further analyses. In the following four sub-sections, the preliminary data analysis including data cleaning, missing value analysis, non-response bias, test of normality and test of outliers is presented.

7.3.1 Data Cleaning

As mentioned, the sample comprised a total of 600 respondents from different online brand communities who completed the questionnaire. Answers to all questions were compulsory and if a respondent did not answer one question, it was impossible to submit the questionnaire. Hence, all questionnaires were completed and none were returned blank. The following four techniques were used in the questionnaire to increase the quality of data, like in the previous study:

- Three quality-check statements were placed in the questionnaire to ensure that respondents were responding to the questionnaire carefully. These three statements, which were placed in different locations (see the Appendix) were: "Please select strongly agree for this question and then continue", "Please select strongly disagree for this

question and then continue" and "This questionnaire has been completed by me honestly and accurately". These statements each had a 7-point Likert scale where 1 = Strongly agree and 7= Strongly disagree. For the first two statements to which respondents should select a specific answer, any respondent who selected another answer was removed from the data set. Regarding the third quality-check question, respondents who selected responses including 'Strongly Agree', 'Agree' and 'Agree Somewhat' were included in the data set; otherwise, they were removed. The required analysis using SPSS 22.0 was performed on the initial data set and 62 respondents who selected an inappropriate response were dropped from the data set. The performed descriptive analysis identified the 62 respondents who should be removed from the data set.

- As this study targeted the users of online brand communities, two questions were placed about the brand communities. The name of the online brand community as well as the approximate number of users was requested to make sure that the mentioned brand community exists. The answers of all 538 respondents were checked and inappropriate answers to each question were identified. Some respondents typed unknown names for the online brand community to which they belong and the other group of respondents failed to specify the number of community members. A total of 21 respondents were immediately screened from the study as a result of meaningless responses to open-ended questions through an inspection of the descriptive analysis of this stage of data cleaning.

- The response pattern of the remaining respondents as well as their responses to positive and negative questions was carefully checked. The objective of this process was to reveal any specific pattern in answering the questions or inconsistency in answering positive and negative questions. At the conclusion of this careful observation, a total of six respondents were dropped due to lack of elaboration and data quality.

- Finally, the average time to complete the questionnaire was computed by AMT as 14:33 minutes. A total of four respondents were excluded from the study for speeding through the survey questions and data quality.

These four techniques were used for the cleaning process to make sure that the data set provided is suitable for the next stages analysis. Of the 600 completed survey returned, 93 respondents were screened at the conclusion of the data cleaning. In general, the 93 respondents were removed for speeding through the survey and data quality, e.g. straight lining, lack of elaboration and meaningless responses to open-ended questions. In total, 507 respondents remained for further data screening procedures.

7.3.2 Survey Bias

The objective of this section is to check one of the most common sources of survey bias, which is non-response bias. In order to evaluate the potential for non-response bias, the extrapolation

procedure suggested by Armstrong and Overton (1977) is used. Following Armstrong and Overton (1977), the responses were categorised into quartiles based on the submitted time indicated by AMT. In constant with the research by Tsai and Pai (2014) and Boyer and Hult (2005), the first quartile was the early respondents and the last quartile was the late respondents and served as a proxy for non-respondents. This approach was used to determine if there were any significant differences between the respondents placed in the first quartile and those in the last quartile. In order to compare these two groups, a chi-square test and a t-test were used for categorical and continuous variables respectively. As variables of interest are all categorical, a chi-square test was conducted to assess the non-response bias. Table 40 shows the computed chi-square of the variables age, gender, educational level, membership length and frequency of visit. The results of the comparison tests did not reveal significant differences in terms of mentioned variables. These results suggested that non-response bias is unlikely to be a major problem in the sample.

Table 40 Non-Response Analysis Bias

Variable	Mean of the first quartile	Mean of the last quartile	Chi-square	p
Age	2.37	2.34	4.571	0.663
Gender	1.41	1.29	0.176	0.535
Educational Level	6.03	6.13	3.267	0.349
Membership Length	2.67	2.58	1.739	0.743
Frequency of Visit	3.38	3.35	8.903	0.639

7.3.3 Test of Outliers

As discussed in Section 5.5.2.5, z-scores and boxplot are used to examine the potential outliers. Similar to the previous study, this section follows the same methods in detecting outliers. Consistent with the rules of thumb suggested by Hair et al. (2010), the majority of the cases were below ± 3.29 z-values (P<0.001). The result indicates that there is an absence of significant outliers except in some cases, which are explained as follows. According to the result, there were five cases (27-228-231-304-339) with -4.12 z-scores for items "I like to know that my comments and suggestions can influence the brand and its products", "I feel good when I can help to answer other community members' questions" and "It is important for me to be able to use the OBC to find answers to my questions about the brand". In addition, the box plot method was used to for further detection of outliers. Table 41 shows a further number of outliers that were identified by

this visual examination. As Hair et al. (2010) suggest, these items should be retained unless demonstrable proof indicates that they are truly aberrant and not representative of any observations in the sample. It is normal to identify respondents who respond extremely agree or disagree with the mentioned items. Furthermore, if outliers are problematic in a particular technique, they can often be accommodated in the analysis in a manner in which they do not seriously distort the analysis. Thus, the identified outliers in this stage were retained for the following analysis.

Table 41 Assessment of Outlier Using Boxplot

Item	Case Number
I like to know that my comments and suggestions can influence the brand and its products	27- 304- 488
I feel good when I can help to answer other community members' questions	231-302-339-377
It is important for me to be able to use the OBC to find answers to my questions about the brand	228-151-216
I consider the brand as my number one choice	228-296-298
I am satisfied with my decision to become a member of the OBC	43-77-339-377
I am proud to recommend the brand to other members of the OBC	27-151- 304
I recommend the brand to other member of the OBC	109-220

7.3.4 Test of Normality

In this study, similarly to the previous study, skewness and kurtosis were initially used in order to test normality as the most fundamental assumption. The result from initial examination of normality revealed that the positive values for the skewness ranged from 0.003 to 1.646 and the skewness negative values ranged from -1.473 to -0.001. Regarding the analysis of kurtosis, negative values ranged from -1.468 to -0.011 and positive values ranged from 0.031 to 2.530. Following the recommendation by Curran et al. (1996), having kurtosis and skewness values below 7 and 2 respectively shows that the shape of the probability distribution for all variables roughly corresponds to the normal distribution. The further normality assumption was assessed using Kolmogorov-Smirnov (K-S) and Shapiro-Wilk (S-W) tests. The significant results (p=0.000) for all the items were derived from the analysis of both tests, indicating small deviations from normality. Table 42 shows the significant results of both tests for all items. Even though it is important to understand how the distribution departs from normality in terms of shape and whether these values are large enough to warrant attention, the effects of sample size should be considered (Hair et al., 2010). According to Hair et al. (2010), the detrimental effects of the

non-normality are reduced in a larger sample size. For a sample size of 200 or more, however, these same effects may be negligible. As explained in Section 6.3.1.3, a significant result can easily be obtained with small deviations from normality with a sample size of 507 respondents (N > 200).

Table 42 Normality Assessment Using Kolmogorov-Smirnov and Shapiro-Wilk

	Kolmogorov-Smirnov			Shapiro-Wilk		
Items	Statistic	df	Sig	Statistic	df	Sig
IQ-1	.170	507	.000	.904	507	.000
IQ-2	.164	507	.000	.922	507	.000
IQ-3	.201	507	.000	.894	507	.000
IQ-4	.221	507	.000	.912	507	.000
GN-1	.118	507	.000	.932	507	.000
GN-2	.152	507	.000	.883	507	.000
GN-3	.148	507	.000	.890	507	.000
BI-1	.118	507	.000	.932	507	.000
BI-2	.152	507	.000	.883	507	.000
BI-3	.148	507	.000	.890	507	.000
BI-4	.173	507	.000	.927	507	.000
BI-5	.164	507	.000	.913	507	.000
CI-1	.205	507	.000	.926	507	.000
CI-2	.265	507	.000	.898	507	.000
CI-3	.145	507	.000	.914	507	.000
CI-4	.131	507	.000	.935	507	.000
CI-5	.143	507	.000	.886	507	.000
Advo-1	.205	507	.000	.926	507	.000
Advo-2	.265	507	.000	.898	507	.000
Advo-3	.145	507	.000	.914	507	.000
Social-4	.131	507	.000	.935	507	.000
Social-7	.143	507	.000	.886	507	.000
Social-8	.176	507	.000	.892	507	.000
Co-d1	.210	507	.000	.906	507	.000
Co-d2	.209	507	.000	.925	507	.000
Co-d3	.113	507	.000	.896	507	.000
Co-d4	.153	507	.000	.915	507	.000
Learn-1	.141	507	.000	.935	507	.000
Learn-2	.175	507	.000	.888	507	.000
Learn-3	.168	507	.000	.890	507	.000
Learn-4	.207	507	.000	.923	507	.000
Share-1	.226	507	.000	.902	507	.000
Share-2	.115	507	.000	.928	507	.000
Share-3	.153	507	.000	.899	507	.000
Share-4	.142	507	.000	.913	507	.000
CS-1	.205	507	.000	.926	507	.000
CS-2	.265	507	.000	.898	507	.000
CS-3	.145	507	.000	.914	507	.000
BL-1	.131	507	.000	.935	507	.000
BL-2	.143	507	.000	.886	507	.000
BL-3	.205	507	.000	.926	507	.000
BL-4	.265	507	.000	.898	507	.000

7.4 Exploratory Factor Analysis

The necessary conditions were presented prior to performing Exploratory Factor Analysis (EFA). In this section, a series of EFA is conducted on the data set. The data set was appropriate for EFA considering the five-factor, 18-item CE scale and the sample size of 507. The suitability of the data set for EFA was indicated using the significances of Bartlett's test of sphericity and the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy. According to the report of both analyses as presented in Table 44, it suggested that a factor structure is likely to underlie the data and also the existence of large correlations amongst the variables.

Table 43 Significant Bartlett's Test of Sphericity

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.925
Bartlett's Test of Sphericity	Approx. Chi-Square	2276.491
	df	378
	Sig.	.000

To analyse the data, this study employed EFA procedures using principal component analysis as the extraction method with oblique rotation as the rotation method. Regarding the result from the previous study, the five underlying dimensions of the CE construct were ascertained. Thus, the EFA was performed with a forced number of factors, which was five factors. Following Hair et al. (2010), three conditions were considered in order to identify poorly performing items to be excluded from other items: a. items with loading less than 0.7; b. items with loadings on multiple factors; c. items with communalities less than 0.5. As illustrated in Table 45, all items were loaded on the desired factors and all communalities were reported as being more than 0.80. As a result, the 18-item CE scale was adopted for further analysis.

Table 44 Principal Component Analysis: Factor Loadings, Variance Extracted and Cronbach's Alpha

	Factor Loadings					
	1	2	3	4	5	Communalities
Sharing						
I like participating in the brand community because I can use my experience to help other people	.758					.889
I like to share my experience and knowledge with others in this brand community to help them be more educated about the brand	.812					.869
I really like helping other community members with their questions	.707					.837
I feel good when I can help answer other community members' questions	.846					.915
Co-developing						
I am motivated to participate in the brand community because I can help to improve the brand and its products		.895				.878
I like to know that my comments and suggestions can influence the brand and its products		.751				.819
Increasing the influence I have on the brand and its products makes me want to participate more in the brand community		.852				.884
I hope to improve the brand or product through my participation and expression in the brand community		.775				.905
Learning						
I am motivated to participate in this brand community because I can receive help from other community members			.824			.915
I am motivated to participate in the brand community because community members can use their knowledge to help me			.943			.906
I like participating in this brand community because it gives me an opportunity to receive help from other community members			.807			.837
It is important to me to be able to use this community to find answers to my questions about the brand			.767			.907
Advocating						
I promote the brand through my participation and expression in the OBC				.813		.863
When asked, I recommend the brand to other members of the OBC				.896		.878
This is my preferred brand that can be seen in my participation in the OBC				.933		.859
Socialising						
I use the brand community to communicate with people who share the same interest as me					.832	.833
It is important for me to have conversation with other members in the OBC who share the same opinion about the brand					.722	.901
Having conversation with other members who share the same opinion in the OBC is interesting					.803	.885
Percentage of Variance	57.5%	11.5%	8.8%	6.5%	4.8%	
Cronbach Alpha	.899	.907	.910	.844	.898	

7.5 Confirmatory Factor Analysis

Confirmatory factor analysis was conducted on the remaining 18 items. The objective of this section is to confirm the CE scale's dimensionality, and arrive at the final CE scale. The results in Table 46 suggest a good model fit. Following Hair et al. (2010), the adequate value for CMIN/DF statistic is between 2 and 5. Furthermore, the other indices presented in the table 46 corroborate the good model fit to the data.

Table 45 Model Fit Indices

Model Fit Indices		GFI	CFI	TLI	RMSEA	SRMR
Proposed Five-dimensional Model	χ^2 (46) = 172.312, p = .000; Normed Chi- Square= 3.372	.922	.968	.955	.061	.048
Rules of thumb		>.9 Good	>.95 Great	>.95 Great	<. 07 Moderate	<. 05 Great

The acceptable cut-off point for GFI, CFI, and TLI is .90, and the higher values suggest an excellent model fit. Regarding RMSEA and SRMR, the values of 0.08 or less and 0.05 or less indicate a good model fit. There was no need to remove further items as the 18 items represent the five first-order factors that correspond with a higher-order CE construct and each item loaded significantly on the desired dimension. As shown in Table 47, the estimates of confirmatory factor loadings ranged from 0.798 to 0.960, with t-values between 13.754 and 25.722 (p=0.000). The regression weights for each of the items onto their intended factors were significant and all standard coefficients were more than 0.50, suggesting that each of the items should remain in the model.

Table 46 Item Loadings for the Five-Factor CFA Model

Factor and Items Estimates:	Standardised	Unstandardised	t-values
Sharing			
Share-1 I like participating in the brand community because I can use my experience to help other people	.829	.985	20.515
Share-2 I like to share my experience and knowledge with others in this brand community to help them be more educated about the brand	.897	.958	19.788
Share-3 I really like helping other community members with their questions	.837	1.049	21.892
Share-4 I feel good when I can help answer other community members' questions	.862	1.000	
Co-developing			
Co-d1 I am motivated to participate in the OBC because I can help to improve the brand and its products	.841	.968	14.582
Co-d2 I like to know that my comments and suggestions can influence the brand and its products	.852	.954	13.754
Co-d3 Increasing the influence I have on the brand and its products makes me want to participate more in the OBC	.908	1.033	15.204
Co-d4 I hope to improve the brand or product through my participation and expression in the OBC	.844	1.000	
Learning			
Learn-1 I am motivated to participate in this brand community because I can receive help from other community members	.827	.943	16.604
Learn-2 I am motivated to participate in the brand community because community members can use their knowledge to help me	.872	.996	18.504
Learn-3 I like participating in this brand community because it gives me an opportunity to receive help from other community members	.833	.910	17.615
Learn4 It is important to me to be able to use this community to find answers to my questions about the brand	.852	1.000	
Socialising			
Social-4 I use the brand community to communicate with people who share the same interest as me	.887	.962	19.165
Social-7 Having conversation with other members who share the same opinion in the OBC is interesting	.808	.887	25.722
Social-8 It is important for me to have conversation with other members in the OBC who share the same opinion	.878	1.000	
Advocating			
Adv-1 I promote the brand through my participation in the OBC	.862	.977	18.505
Adv-2 When asked, I recommend the brand to other members of the OBC	.865	.973	21.387
Adv-3 This is my preferred brand that can be seen in my participation in the OBC	.828	1.000	
Sharing	1.000	.822	
Co-developing	1.155	.887	14.338
Learning	1.181	.806	13.585
Socialising	.761	.765	10.716
Advocating	.833	.667	10.915

7.5.1 Convergent and Discriminant Validity

As discussed in Section 6.3.4.1, three criteria were considered in order to provide evidence for the convergent validity of the five-factor, 18-item CE scale. In the pattern matrix, for n=200, Hair et al. (2010) recommend a critical factor loading of 0.40 to achieve significance. Based on this analysis, all 18 items loaded significantly onto their intended factor, which provides preliminary evidence to support convergent validity. As Table 47 shows, the loading factors of the first-order constructs that were all above 0.70 and the t-values were significant, which provides additional evidence for the existence of a strong relationship between all five first-order constructs and the second-order construct, which is CE. Moreover, the average variance extracted (AVE) was also calculated for each first-order construct and, as shown in Table 48, the AVE exceeded the 0.50 rule of thumb. The third criterion relates to the composite reliabilities (CR) that are illustrated in Table 48. The acceptable cut-off level of 0.7 was met to provide additional support for the convergent validity of the second-order factor model.

Further, the Fornell-Larcker tests were conducted for discriminant validity for each of the 10 possible CE dimension pairs (i.e. Sharing-Advocating; Sharing-Learning; Sharing-Co-developing; Sharing-Socialising; Advocating-Learning; Advocating-Co-developing; Advocating-Socialising; Learning-Co-developing; Learning-Socialising; Co-developing-Socialising). As illustrated in Table 48, the results indicate the five CE dimensions exhibited discriminant validity; that is, the AVE exceeded the squared correlation for the specific paired constructs.

Table 47 AVE- Average Variance Extracted, CR- Composite Reliabilities, Construct Correlations and Square Root of AVE

	CR	AVE	Sharing	Advocating	Learning	Co-developing	Socialising
Sharing	0.898	0.769	**0.877**				
Advocating	0.908	0.850	0.801	**0.922**			
Learning	0.859	0.817	0.677	0.778	**0.904**		
Co-developing	0.816	0.795	0.666	0.672	0.751	**0.892**	
Socialising	0.801	0.783	0.567	0.529	0.651	0.623	**0.885**

7.5.2 Common Method Bias

Since the study data are self-reported, the CFA marker variable technique was used to ensure that common method bias is not a potential problem. There are different approaches to assess common method variances but, following Malhotra et al. (2006), this study adopts a marker-

variable technique. This approach addresses the problems related to Harman's test in a single-method research design. In this approach, a marker variable is implemented in the study such that the marker variable is theoretically unrelated to at least one variable in the study. Because the marker variable is assumed to have no relationship with one or more variables in the study, common method variances can be assessed based on the correlation between the marker and the theoretically unrelated variable.

Following this approach, a three-item fantasy construct was selected as the marker variable to make sure that there is no relationship between marker variable and dimensions of the CE construct. In order to ensure that the study does not suffer from excessive common method variance, four nested CFA models were estimated: CFA model, Baseline model, Method-C model and Method-R model. Table 49 presents the model fit results of the analysis regarding these four models. The chi-square difference test comparing the Baseline model with the Method-C model was not significant. The results indicate that there is no significant difference between the Baseline model factor loadings and Method-C model factor loadings. In addition, the Method-C model and the Method-R model were also compared with each other to examine whether the correlation parameter estimates were significantly biased by marker variable method effects or not. The results provide further evidence that the marker variable does not significantly bias the correlation estimates. Consequently, the common-method bias is not a significant concern in the study.

Table 48 Common Method Bias

Model Fit					Chi-Square Model Comparison Tests			
Model	χ^2	df	P	CFI	Δ models	$\Delta \chi^2$	Δdf	P
CFA Model	116.044	62	0.000	0.977				
Baseline Model	121.748	69	0.000	0.978				
Method-C Model	120.544	68	0.000	0.978	Baseline vs. Method-C	1.204	1	0.228
Method-R Model	120.580	78	0.001	0.981	Method-C vs. Method-R	0.036	10	1.0

Table 49 Common Method Bias – Baseline Model and Method C Model

	Baseline Model	Method-C Model
Sharing ----- Socialising	.698	.696
Sharing ----- Learning	.605	.604
Sharing ----- Co-developing	.779	.778
Sharing ----- Advocating	.515	.516
Socialising---Co-developing	.773	.773
Socialising----Advocating	.613	.612
Socialising----Learning	.625	.625
Learning ---Co-developing	.579	.578
Learning ---Advocating	.510	.511
Co-developing---Advocating	.429	.430

7.6 Nomological Validity

In this chapter, the different quantitative techniques were adopted with a new sample of respondents to confirm the CE scale represents a valid, reliable and stable measurement instrument. This study employed confirmatory factor analysis in order to fit the model to the data and CE scale refinement and confirmation. The convergent and discriminant validity of the five-factor, 18-item CE scale were assessed using different techniques. Then, the common method bias as one of the common sources of survey bias was checked and the result showed that common method bias is unlikely to significantly influence the data. In this section, the proposed customer engagement model in Chapter Four is used to examine the CE scale within a nomological net of focal CE conceptual relationships. The proposed antecedents and consequences of customer engagement in the online brand community are used to provide the evidence for the nomological validity of the CE construct. Nomological validity refers to the degree to which the summated scale accurately predicts other concepts in a theoretical-based model (Hair et al., 2010). In fact, nomological validity determines whether the scale demonstrates the relationships are shown to exist based on theory or prior research. There are different guidelines to test the hypothesised model suggested by Bagozzi and Yi (1988) and Anderson and Gerbing (1988); the current research follows the two-step approach by Anderson and Gerbing (1988) to test the model. In the first step, the fit and construct validity of the proposed measurement model is tested. Once a satisfactory measurement model is obtained, the second step is to test the structural theory. The following subsections outline the analysis to assess the measurement model and to evaluate the structural model.

7.6.1 The Measurement Model

There are four antecedents and two consequences (i.e. brand identification, community identification, information quality, group norm, brand loyalty and customer satisfaction) with 24 indicators overall. Considering the minimum level of estimate-to-observation ratio (1:5), all the items of these six latent constructs are assessed in one overall CFA model. The results of the CFA model are presented in Table 51.

Table 50 Measurement Model Fit Indices

Measurement Model Fit Indices	GFI	CFI	TLI	RMSEA	SRMR
$\chi 2$ (261) = 672.312, p = .000; Normed Chi- Square= 2.372	.878	.940	.935	.063	.044
	>.9	>.95	>.95	<. 07	<. 05
	Good	Great	Great	Moderate	Great

According to the results presented in the above table, there was a satisfactory level for the measurement model except for GFI, which was lower than the acceptable level. Moreover, the standardised factor loadings for all items were found to be greater than the generally accepted cut-off point of 0.50. Two items were loaded onto more than one variable, which were highlighted by modification indices. In addition, one 'information quality' item had a standardised estimate that fell below 0.50. Hence, some modifications had to be applied to the measurement model in order to have a valid measurement model. As Hair et al. (2010) suggest, a measurement model is essential because with poor measures we would not know what the constructs truly mean. This was carried out using an iterative process to find the items that need to be deleted. As a result, one item from the 'information quality' scale, one item from the 'community identification' scale and one item from the 'brand loyalty' scale were removed. The results from the new CFA model with six constructs and 21 reflective items were significantly improved. Table 52 shows the results from the modified CFA model.

Table 51 Measurement Model Fit Indices

Measurement Model Fit Indices	GFI	CFI	TLI	RMSEA	SRMR
$\chi 2$ (181) = 382.374, p = .000; Normed Chi- Square= 1.678	.928	.978	.957	.043	.038
	>.9	>.95	>.95	<. 05	<. 05
	Good	Great	Great	Good	Great

Then, the reliability, convergent validity and discriminant validity of the measures were assessed. The computed Cronbach alpha for all constructs were more than the recommended value of 0.70 (Cronbach alpha > 0.76). Internal consistency was assessed by the composite reliability, which indicated a high degree of consistency between multiple measurements of each construct. The computed AVE was above the generally acceptable cut-off point of 0.5, which demonstrated the convergent validity. In addition, as Table 54 shows, the diagonal elements (i.e. the square roots of the AVE for each latent variable) were greater than the off-diagonal elements, indicating that each construct shares more variance with its measures than with other constructs. The results suggest that all measures of the constructs in the measurement model achieved discriminant validity.

Table 52 Measurement Invariance, Standardised Loadings t-value and Cronbach Alpha

	Standardised Loading	t-value	Cronbach Alpha
Brand Identification			.890
To what extent does your perception of who you are (i.e., your personal identity) overlaps with your perception of what brand represents (i.e., brand identity)?	.788	13.708	
When someone praises the brand, it feels like a personal compliment.	.815	14.621	
I consider myself a valuable partner of the brand.	.855	13.622	
I feel like I am personally connected to the brand.	.769		
Community Identification			.912
I am very attached to the brand community.	.835	19.819	
I see myself as a part of the brand community.	.928	23.712	
I am an important member of the brand community.	.875	18.709	
I am a valuable member of the brand community.	.864		
Information Quality			.922
The information from the OBC is always up to date.	.892	14.838	
The OBC provides me with a complete set of information.	.931	21.646	
The information provided in the OBC is accurate.	.875		
Group Norm			.873
Average of the strength of the goal by other members.	.897	9.500	
Strength of the goal by yourself.	.955	9.538	
To what extent does your values and goals overlap with the community's goals and values?	.844		
Brand Loyalty			.749
I encourage relatives and friends to buy the products and services of the brand.	.624	10.962	
It is very important for me to buy the products and services of this particular brand rather than other brands.	.754	11.407	
I intend to buy the other products of this brand in future.	.766		
Customer Satisfaction			.928
The OBC's information content meets my needs.	.827	23.747	
I am satisfied with my decision to become a member of the OBC.	.955	22.438	
The content of the OBC matches exactly with my interests.	.909		

Table 53 AVE - Average Variance Extracted, Composite Reliabilities and Square Root of AVE

	CR	AVE	1	2	3	4	5	6
Brand Identification (1)	0.898	0.800	**0.894**					
Community Identification (2)	0.918	0.765	0.854	**0.874**				
Information Quality (3)	0.859	0.606	0.377	0.578	**0.778**			
Customer Satisfaction (4)	0.916	0.597	0.266	0.572	0.751	**0.772**		
Group Norm (5)	0.846	0.703	0.616	0.674	0.465	0.415	**0.838**	
Brand Loyalty (6)	0.768	0.524	0.529	0.640	0.561	0.688	0.685	**0.723**

7.7 The Structural Model

The objective of this section is to test the structural model, which depicts the hypothesised relationships between latent constructs. The proposed model in Chapter Four is used as a structural model to test the hypothesised relationships. As the proposed model shows, there are paths from group norm, information quality, brand identification and community identification to CE, which is considered as an exogenous variable, and paths from CE to brand loyalty and customer satisfaction. The findings indicate that the model provides a good fit to the data: $\chi2(450)$ =1019.788, p=0.000; normed-chi-square=1.749, GFI=0.917, CFI=0.957; RMSEA=0.047, SRMR=0.0525. The results of our proposed model and research hypotheses are shown in Table 55. The discussion regarding the hypotheses is presented in the following paragraph.

Most of the hypothesised structural paths were significant and in the expected direction except one path, which is from group norm to CE. Three of four antecedents, brand identification, community identification and information quality, are positively related to the CE. The results supported these three hypotheses suggested in Chapter Four. Empirical results supported the positive influence of community identification (β=0.485, t-value=7.309) and brand identification (β=0.203, t-value=3.807) and also information quality (β=0.323, t-value=5.511) on CE. However, the influence of group norm on CE was not supported (β=-0.068, t-value=-0.424). Both consequences of CE were supported, which demonstrates the positive influence of CE on customer satisfaction and brand loyalty. The results showed that the hypothesised relationship between CE and brand loyalty was supported at the significance level of 0.05 (β=0.588, t-value=4.817). In addition, the effect of CE on customer satisfaction was supported at the significance level of 0.05 (β=0.360, t-value=5.701). It is important to mention that a t-value greater than 1.96 is significant at the 5% level, a t-value greater than 2.576 is significant at the 1% level, and a t-value greater than 3.291 is significant at the 0.1% level. The explanatory power

of the dependent variables was measured by the value of R squared as follows: CE (R^2 =0.418), brand loyalty (R^2 =0.329) and customer satisfaction (R^2 =0.246). Overall, the CE construct performed as theoretically expected within the hypothesised nomological network, thus exhibiting evidence of nomological validity of the newly developed measure.

Table 54 Structural Modelling Results Using the Newly Developed Scale

Structural relationship	Unstandardised parameter estimate	t-value	Standardised parameter estimate
Information Quality ⟶ CE	.254	5.511	.323***
Group Norm ⟶ CE	-.014	-.424	-.068
Community Identification ⟶ CE	.380	7.309	.485***
Brand identification ⟶ CE	.116	3.807	.203**
CE ⟶ Brand Loyalty	.601	4.817	.588***
CE ⟶ Customer Satisfaction	.436	5.701	.360***
R^2			
CE			.418
Customer Satisfaction			.246
Brand Loyalty			.329
*** P < 0.001, ** P < 0.01, * P < 0.05			

Table 55 Summary of Hypotheses' Results

Hypotheses	
H1: Higher levels of information quality lead to greater levels of engagement regarding the online brand community.	S
H2: Stronger group norms lead to greater levels of engagement regarding the online brand community.	NS
H3: Stronger identification with community leads to higher levels of engagement in the online brand community.	S
H4: Stronger identification with a brand leads to higher levels of engagement in the online brand community.	S
H5: Greater levels of engagement have a positive effect on brand loyalty.	S
H6: Greater levels of engagement have positively effect on consumer satisfaction.	S

7.8 Summary

This chapter has presented the final phase of the scale development process of CE. The dimensionality, reliability and validity of the newly developed measure of CE were confirmed using a new sample of respondents. In addition, the other objective of this study in order to propose the model of customer engagement in the online brand community was discussed through examination of the nomological validity of the CE measure. The proposed model in Chapter Three was tested using a two-step approach. In the first step, the measurement model was assessed to reach the validated model. The findings revealed that the measurement model satisfied the criteria of unidimensionality, reliability, convergent validity and discriminant validity. In the second step to test the hypothesised relationship, the purpose was to test the structural model proposed in this study. According to the result, three of four antecedents in the model exerted significant effects on CE. In addition, the results implied that the newly developed multi-dimensional measure of CE appeared to have a strong influence on customer satisfaction and brand loyalty. The next chapter discusses the findings from the analyses in relation to the relevant literature.

<center>Chapter Eight</center>

<center>Discussion</center>

8.1 Introduction

This chapter includes the interpretation of the findings from the previous analyses in relation to the extant literature. It also highlights the objectives of the current research through the discussion of the results in the last chapter. First of all, the limitations and gaps of the current studies are briefly discussed and the current conceptualisations and measurement of customer engagement are presented. Next, the adopted definition of customer engagement and the dimensions of the construct are presented. Following this, the scale development process of customer engagement in order to have a reliable and valid scale is presented. Regarding scale development, the discussion on each study is explained and the result of each study is highlighted. With the conceptualisation and measurement of customer engagement presented, the outcomes of the hypotheses proposed in this study are discussed. Finally. The discussion on developed and tested model based on Elaboration Likelihood Model (ELM) is presented. It is important to mention that the discussion presented in this chapter is in relation to other studies in the literature.

8.2 Customer Engagement: Current Conceptualisation and Measurement

The customer engagement conceptualisation and measurement in the marketing literature has been objectively assessed through a comprehensive systematic literature review. The literature regarding customer engagement has been split into two main groups, before and after 2010 years. The turning point in the literature review came when the importance of the construct was emphasised by the AMA (American Marketing Association) and MSI (Marketing Science Institute). It was observed that there is a lack of empirical research regarding customer engagement, resulting in a limited understanding of the concept and its measurement to date. Despite the lack of empirical research, no prior study has undertaken a dedicated effort to understand the unique dimensions of engagement in online brand communities. However, there

is a general consensus that an understanding of customer engagement is beneficial both theoretically and practically.

Through a systematic literature review, it was observed that there is a lack of empirical study to develop and validate a reliable scale for customer engagement. Specifically, conceptualisation of customer engagement in online brand communities is one of the key areas that has been identified as a literature gap. According to the classification of the current research, two main research streams can be identified: a. customer engagement used in marketing literature before 2010, which was conceptualised as a unidimensional construct; b. conceptual studies after 2010 where customer engagement was conceptualised as a multi-dimensional construct. Following the exploratory study by Brodie et al. (2013), the current research suggested that the conceptualisation of the first stream of studies does not adequately capture the theoretical domain of the construct. Consequently, studying customer engagement as a multi-dimensional construct gives a better understanding of customer relationship with brand community. In particular, a number of recent conceptual studies in the marketing field suggest the same: that customer engagement involves different dimensions. In addition, the initial conceptualisations are old and do not account for changes in interaction between customer and communities due to recent technology advancements. Thus, the reliability and validity of the popular scales used in the marketing literature studies before 2010 are the main shortcomings of the existing scales. In conclusion, the unique dimensions of engagement for online brand communities identified by Brodie et al.'s (2013) study are considered as a theoretical foundation for conceptualisation and operationalisation of customer engagement in online brand communities.

8.3 Reconceptualising the Customer Engagement Construct

According to Brodie et al. (2013):

"Customer engagement in a virtual brand community involves specific interactive experiences between consumers and the brand, and/or other members of the community. Customer engagement is a context-dependent, psychological state characterized by fluctuating intensity levels that occur within dynamic, iterative engagement processes."

In this exploratory study, customer engagement is a multi-dimensional concept that plays a central role in the process of relational exchange. The current research employed the above

conceptualisation of customer engagement, which specified the domain of the construct. According to their study, five dimensions have been identified that serve as a guide to the scale development process (Churchill, 1979; Netemeyer et al., 2003; Hair et al., 2010). The initial item pool was generated based on the specified domain in the Brodie et al.'s (2013) study. According to the analysis presented in the previous chapter, the proposed five-dimensional conceptualisation of CE was supported. The customer engagement construct comprised five distinct dimensions: 'socialising', 'advocating', 'sharing', 'learning' and 'co-developing'. The construct's dimensionality has been supported after a series of analyses and the results showed consistency across samples and brands. Based on the analysis, the current research proposes the following definition for customer engagement in the online brand community:

"A multi-dimensional behaviour resulting from a psychological and cognitive state of perceiving association with a brand in the context of the online brand community"

As the identified five dimensions are related to customer behaviour in the online brand community, the current research suggests using multi-dimensional behaviour to describe the engagement. In line with the definition of Brodie et al. (2013), Multi-dimensional behaviour results from a person's psychological and cognitive state. The definition shows that customer engagement is also different from similar terms such as involvement and interaction.

8.4 Measurement of the Customer Engagement Construct

In order to develop a reliable and valid scale, the current research followed the guidelines suggested by Anderson and Gerbing (1988), Churchill (1979) and Netemeyer et al. (2003). A customer engagement scale was developed and tested in three phases including two stage of expert item judging and two studies with two independent samples. Using different respondent samples and spread across different online brand communities, the CE scale had a good reliability and the analyses provided evidence for strong levels of convergent and discriminant validity as well as nomological validity. A discussion of each phase in the scale development process is presented as follows.

8.4.1 Phase 1 – Item Generation

The objective of the first phase was to generate specific items for the proposed dimensions of CE and to select the items that have face and content validity. The first step of the scale development process started with the definition of the CE construct and its dimensions. As mentioned, this study adopted the definition and proposed dimensions from the exploratory research by Brodie et al. (2013). The definition and its dimensions guided the development of an initial set of items that capture the domain of the construct. The relevance of the items generated using related literature was assessed through different stages of expert item judging. In order to include all recent studies, the validated items developed by Baldus et al. (2015) were adopted for three dimensions: co-developing, sharing and learning. Ten items were eliminated from the initially generated item pool as a result of the face validity of the newly developed measures. Through the second stage of expert item judging, four more items were removed. Six items were rephrased and reworded to accurately measure the intended dimension. Overall, the number of items was reduced from 42 to 28 items. Nine items for socialising, seven items for advocating, four items for sharing, four items for co-developing and four items for learning were retained for further analyses.

8.4.2 Phase 2 – Scale Development Study

The second phase was designed to further reduce the 28-item pool reflecting CE and address the following question: how many CE dimensions exist? To achieve these objectives, an online questionnaire was designed for the next phase of the scale development process that included the remaining 28 items from the first phase. The respondents across the different online brand communities participated in the web-based survey. In order to purify the CE scale, exploratory factor analysis was conducted. Based on the analyses, eight items were removed, five items of socialising and three items of advocating. The items were dropped due to the measures of factor loading, cross loading and communalities based on the minimum cut-off recommended by Hair et al. (2010). The internal consistencies of the scales reflecting the five dimensions were satisfactory, with all Cronbach alpha scores above 0.90.

Next, confirmatory factor analysis was conducted to refine the preliminary 19-item scale. Although the results from assessment of the model fit were satisfactory, one more item was

removed when confirmatory factor analysis was conducted. The item was loaded on two dimensions, sharing and socialising. After removal of the item, the confirmatory factor analysis was conducted again and the result of the model fit for the five-factor model with 18 items was satisfactory. Specifically, the score of the RMSEA as one of the main fit indices was improved from 0.057 to 0.047 (<0.05 is desirable).

Convergent and discriminant validity of the preliminary five-factor, 18-item CE scale were then tested. Following the method by Fornell and Larcker (1981), three criteria were considered to evaluate the convergent validity of the CE scale. The analyses provided evidence for the convergent validity because: a. all items loaded significantly on their intended constructs, b. composite reliability for each construct ranged from 0.841 to 0.937, and c. AVE estimates for each construct exceeded the 0.50 rule of thumb. Consequently, the convergent validity of the second-order factor model with the five first-order factors was supported.

Similar to convergent validity, three methods were used to test the discriminant validity. All computed average variance extracted scores exceeded the correlation squared for each pair of dimensions and the value of one was not observed in the table of the confidence interval for the correlation between each pair of constructs, and finally the chi-square of the unconstrained model was lower than the chi-square of the model with correlation fixed to one for each pair of dimensions. The analyses also indicate the discriminant validity for the five CE dimensions.

8.4.3 Phase 3 – Final Validation Study

The objective of the third phase was to refine and confirm the preliminary 18-item scale as well as examine the nomological validity of the CE scale. Furthermore, the proposed model for customer engagement and the related hypotheses were tested through the third phase of this study. To achieve these objectives, a new sample of respondents was employed across different online brand communities. Similar to phase 2, respondents were recruited via Amazon Mechanical Turk to participate in an online questionnaire. A series of analyses were performed on the data set collected from 507 members of different online brand communities. These analyses aimed to provide further validation of the CE scale.

First, this study employed exploratory factor analysis using principal component analysis with oblique rotation and the number of factors was forced to be five. All items were loaded on their

intended factors with an acceptable factor loading. Then, CFA was conducted on the remaining 18 items to confirm the scale's dimensionality. The values of the model fit indices suggested there was no need to remove further items. All 18 items remained for the next analyses as represented by the five first-order factors that evidenced a strong relationship with the second-order construct and explained 89.1% of the total variance.

The other important analysis for this stage was to address the common method bias concern since the data were collected via a single survey method. The CFA marker variable technique was employed to check the potential problem of common method bias. Following Malhotra et al. (2006), it was suggested that common method bias is unlikely to significantly influence the data.

The analyses were followed by an assessment of reliability and convergent and discriminant validity. Reliability of scale was assessed using Cronbach's alpha as well as composite reliability (CR). The results indicated that all dimensions have good reliability as both composite reliability and Cronbach alpha exceeded 0.70. The same methods were used for this study to check convergent and discriminant validity. Each of the 18 items loaded significantly onto its intended factor and the AVE for each factor exceeded 0.50. Thus, the CE scale exhibited convergent validity of the five-factor, 18-item CE scale. Further, a Fornell-Larcker test was conducted for discriminant validity for each of the 10 possible CE dimension pairs. The results provide evidence for discriminant validity as the AVE exceeded the squared correlation for the specific paired constructs. The results of this stage's analyses confirmed the CE scale represented a valid, reliable and stable measurement instrument.

In summary, these three phases including two studies support that CE is a second-order factor model with five first-order constructs. Following the exploratory study by Brodie et al. (2013), the analyses reported in the section for each study provide evidence for and strongly support that the five dimensions are reliable and exhibit strong levels of discriminant and convergent validity. The results of these three phases support the exploratory qualitative research findings. It is also important that the proposed CE scale effectively demonstrate its nomological validity. The following section presents the discussion about each dimension and the findings of the hypotheses are then discussed.

8.5 The Dimensions of the Customer Engagement Construct

Following exploratory qualitative research by Brodie et al. (2013), customer engagement was proposed to comprise five dimensions: sharing, socialising, advocating, learning and co-developing. After three phases of analysis including two studies with two sets of data, the findings provide the empirical evidence of those conceptual/exploratory findings. However, the analyses demonstrated that CE is a reflective second-order construct comprising five reflective first-order dimensions, as shown in Figure 17.

Figure 17 The Five Dimensions of Customer Engagement
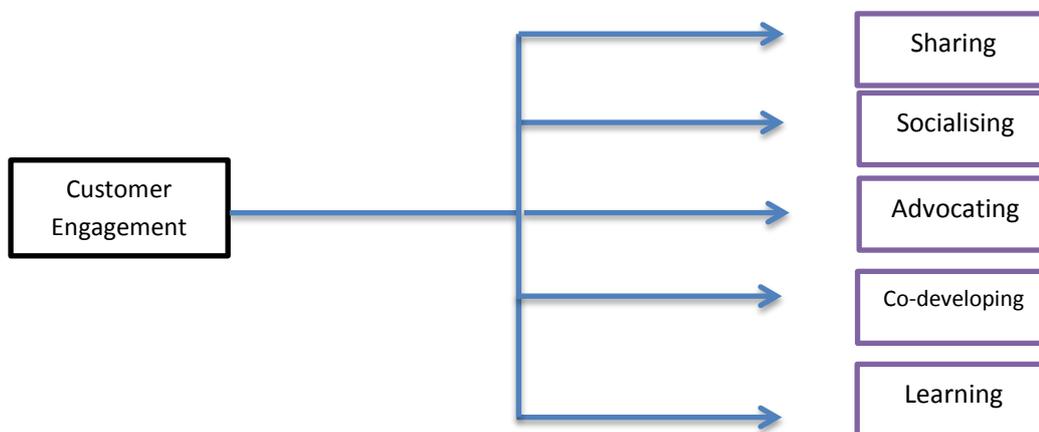
Sharing – this dimension of customer engagement is defined as "*the degree to which a community member shares personal relevant information, knowledge and experiences through the process of active contributions to the co-creation of knowledge*" (Brodie et al., 2013: 111)*.* Through the literature review, a similar dimension was found in the research by Baldus et al. (2015), and also De Valck et al. (2009) include sharing as a dimension of customer engagement. Prior studies theoretically support the logic for including this dimension. Empirically, a dimension that contained four internally consistent and highly interrelated sharing items emerged from the data.

Learning – as mentioned in Section 3.4, the learning dimension is defined as "the vicarious acquisition of cognitive competencies that customers apply to purchase and consumption decision making". Brodie et al. (2013) found this dimension using a netnography technique to study an online brand community. Theoretically, Baldus et al. (2015) and De Valck et al. (2009) have also found this dimension as a dimension of customer engagement in online brand communities. Empirically, the learning dimension comprises four highly correlated items that

reflect "the degree to which a community member wants to receive information from other members".

Co-developing – this dimension is defined as a *"process where customers contribute to organisations by assisting in the development of new products, services, brands or brand meanings".* Brodie et al. (2013) identified this dimension when customers engage in an online brand community via posts, which illustrates the participant's active engagement in the development of a new product. Theoretically, Baldus et al. (2015) also identified this dimension in their research as a dimension of customer engagement in an online brand community.

Socialising and Advocating – these two dimensions are defined as "two-way, non-functional interactions through which customers acquire and develop attitudes, norms and community language" and "actively recommend specific brand, products and services" respectively. These dimensions are only addressed by Brodie et al. (2013) through a study of an online community. Empirically, the three and three developed items of socialising and advocating were found internally consistent and highly correlated, capturing the degree of individuals' interaction with brand and individuals' level of brand recommendation to others. Consequently, the current research contributes to the customer engagement literature by highlighting the importance of both socialising and advocating as the construct's dimensions.

8.6 Antecedents of Customer Engagement

The conceptual model of the current research presented in Chapter Four proposed six hypotheses. The current research applied the Elaboration Likelihood Model to investigate six sets of specific relationships, four of which were concerned with the relationships of antecedents with customer engagement: the first addressed the relationship between CE and community identification, the second was concerned with the relationship between CE and brand identification, the third explored the relationship between CE and group norm, and the forth examined the relationship between CE and information quality. Specifically, four hypothesised paths, Information Quality (H1), Group Norm (H2), Community Identification (H3) and Brand Identification (H4), were suggested to be positively related to CE. Empirical results supported three of these assertions. Community identification (H3), Brand identification (H4) and Information quality (H1) were deemed to be antecedents of CE. However, the results suggested that Group norm (H2) is not positively related to customer engagement. Table 57 summarises the results of the research hypotheses regarding antecedents of customer engagement. A more detailed discussion about each of these findings is presented in the following sections.

Table 56 Summary of Results of Research Hypotheses (Antecedents and CE)

	Hypothesised Path	Results
H1	Information Quality---> Customer Engagement	Supported
H2	Group Norm---> Customer Engagement	Rejected
H3	Community Identification---> Customer Engagement	Supported
H4	Brand Identification---> Customer Engagement	Supported

8.6.1 Community Identification and Customer Engagement

The objective of this hypothesis was to examine the influence of community identification and CE in online brand communities. The result of the analyses revealed that perceived community identification significantly influences CE in online brand communities. Specifically, community identification has the greatest impact on CE among the predictors in both peripheral and central routes. In other words, when customers see themselves as part of a brand community and build a strong relationship with this online community, this creates high level of engagement in the online brand community. The findings from this relationship highlight the important role of community identification in the development of online brand communities. Moreover, the finding contributes to a greater understanding of the key role that community identification plays in reinforcing engagement in online brand communities.

This relationship between community identification and customer engagement is consistent with previous studies where identification with community exhibits a significant relationship with engagement in online communities (Algesheimer et al., 2005; Carlson et al., 2008; Dholakia et al., 2004). In the study by Algesheimer et al. (2005), a positive relationship was found between identification with brand community and community engagement. Their study found that customers with a strong relationship with European car communities are more likely to engage in community. In addition, Dholakia et al. (2004) examined the influence of community identification on customer participation in the context of online community. However, compared to prior studies, the current research contributes a greater understanding of community identification by examining this concept in the context of online brand communities.

8.6.2 Brand Identification and Customer Engagement

The purpose of this hypothesis was to examine the relationship between brand identification and customer engagement in the online brand community. This important construct was selected as a significant antecedent of customer engagement, and it was expected that customers with a higher level of identification with a brand are more likely to engage in the online brand community. The findings revealed that brand identification exerts a positive effect on CE. Specifically, strong relationships between customers and brands often result from customers' identification with the brand when self-definitional needs are satisfied (Bhattacharya & Sen, 2003). Based on the findings, customer engagement in the online brand community will likely increase when identification with the brand exists.

The findings are consistent with previous studies in which brand identification plays an important role in participation in online communities (Carlson et al., 2008; Dholakia et al., 2004). The current research contributes to a better understanding of the important role of brand identification as the determinant of the level of customer engagement in the context of online brand communities.

8.6.3 Group Norm and Customer Engagement

The examination of the relationship between group norm and customer engagement was the objective of this hypothesis. The results revealed were opposite to the expectation of this study. The findings revealed that there is no relationship between group norm and customer engagement. There are some possible explanations for these contradictory findings. One may be that internalisation of values and norms of a brand community are considered less valuable to consumers in the presence of other antecedents. The study by Shen et al. (2010) supports this view that, in the presence of other antecedents, group norm does not significantly influence customer engagement. The other possible explanation may be related to the existing measures of group norm constructs. As mentioned in Section 7.2, there was a suggestion for editing the group norm items in the pilot study. The studies that employed the construct of group norm have used the measures that were developed in the study of Dholakia et al. (2004) and, since then, this construct has not been conceptualised and operationalised. The current research suggests that there is a need for further research regarding exploration of the mechanism of the

internalisation process in online communities, which would lead to reconceptualisation of this construct and development of new measures. Consequently, the current research concludes that the internalisation process does not play a significant role in reinforcing customer engagement in online brand communities.

8.6.4 Information Quality and Customer Engagement

The relationship between the quality of information provided in the online brand communities was examined via this hypothesis. The support for this hypothesis is evident in the analyses. The results of the analyses presented in Chapter Seven provide evidence for the impact of information quality on customer engagement. There is strong evidence that perceived quality of information provided in online communities plays a key role in determining the level of customer engagement (Lin, 2008; Woisetschlager et al., 2008; Zhou, 2011). The importance of information quality is not only related to the information provided by community managers; community members should also have control over the provided information. The three main elements of information quality, accuracy, completeness and currency, have been considered in the current study. The importance of the information quality has been examined in different studies and specifically Lin (2008) highlighted this construct as one of the determinants of successful virtual communities. Consequently, consistent with Zhou (2011), information quality exerts a positive relationship with customer engagement in online brand communities.

8.7 Consequences of Customer Engagement

According to the conceptual model proposed in Chapter Four, two hypotheses were suggested by which to examine the impact of customer engagement on potential consequences. Specifically, the purpose of these hypotheses was to examine the relationship between customer engagement and customer satisfaction as well as brand loyalty. These hypotheses were developed to address the gaps in the literature regarding the lack of studies about the consequences of customer engagement in online brand communities. The previous studies mostly examine the antecedents of customer engagement, and the consequences of customer engagement require further attention (Brodie et al., 2013; van Doorn et al., 2010). Although

some theoretical models were developed, the empirical research using a quantitative method was required to test these models. The current research mainly contributes to extend the customer engagement literature by empirical examination of the outcomes of this concept in the context of the online brand community. However, the current research suggested two important consequences of customer engagement in the online brand community to address the limitation of existing literature. The results of the hypothesised path from customer engagement to customer satisfaction and brand loyalty are summarised in Table 58.

Table 57 Summary of Hypotheses Regarding Consequences of Customer Engagement

	Hypothesised Path	Results
H5	Customer Engagement---> Customer Satisfaction	Supported
H6	Customer Engagement---> Brand Loyalty	Supported

8.7.1 Customer Engagement and Customer Satisfaction

The fifth hypothesis examined the positive significant role of customer engagement in satisfaction of customers using the online brand community. It was found that customer engagement is an important predictor of customer satisfaction ($\beta = 0.436$) in the context of the online brand community. Importantly, one of the main objectives of a community manager is to ensure the satisfaction of community members and, based on the findings of the current research, customer engagement is positively related to customer satisfaction. Moreover, the findings of this hypothesis contribute to greater understanding of customer engagement behaviour and address the gaps in the existing literature by making a significant link from this construct to a specific consequence, which is customer satisfaction. The next section explains the final hypothesis that the other consequence of customer engagement in the online brand community has examined.

8.7.2 Customer Engagement and Brand Loyalty

In addition to customer satisfaction, the relationship between customer engagement and brand loyalty was hypothesised. The findings revealed that brand loyalty could be one of the outcomes of customer engagement in the online brand community. Customers who are positively more

engaged in community are more likely to be brand loyal. The current research contributes to the literature on brand loyalty with the finding that higher levels of engagement in the online brand community lead to higher levels of brand loyalty. Broadly speaking, when customers tend to engage in a community and they have a vested interest in the success of the community, they are more likely to support the brand in both consumption and preference over other competitors.

The findings of the current research regarding consequences of customer engagement in the online brand community expand our current understanding about the discourse of engagement. This discourse portrays customer engagement as a vehicle for creating, building and enhancing customer relationships (Brodie et al., 2013). The findings show that customer engagement, even in an online environment, is a valuable predictor of customer satisfaction and brand loyalty. The importance of these findings highlights the role of online brand communities in the success of a business.

8.8 Customer Engagement Model Based on ELM

The second objective of the current research was to develop a model that explain the customer engagement in online brand community. Elaboration Likelihood Model (ELM) was adopted to identify the central and peripheral cues as two alternative types of antecedents of customer engagement. the findings indicated that customers are persuaded through both routes to engage in online brand community. As discussed, brand identification and identification with community both influence customers through central route and information quality influence customers through peripheral route to engage.

The importance of using ELM relates to customisation of influential arguments for different online users. According to the extant ELM literature (Bhattacherjee and Sanford, 2006; Petty and Wegener, 1999; Yang et al., 2006), customers with the high-involvement are influenced via central route and customers with the low-involvement are influenced via peripheral route. The results strongly indicated the necessity of both influential factors to engage both types of customers in online brand community due to value of their contribution.

8.9 Summary

This chapter has included a discussion about the findings of the data analyses presented in Chapters Six and seven in relation to the literature. Prior to discussing the suggested conceptual model and the related hypotheses, the conceptualisation and measurement of CE were presented. The main objective of this chapter was to present the findings regarding developing reliable and validate measures for customer engagement. Specifically, this chapter discussed the five dimensions of customer engagement adopted in order to develop the conceptual model. The reliable and validated scales for customer engagement as a first-order construct with five second-order dimensions were obtained through three phases of this research. This chapter presented these three phases and concluded that the most important outcome of this study was the support for the reliability and validity of the newly developed scale. This chapter also presented the central construct in the conceptual model that exhibits a strong level of reliability, convergent and discriminant validity. Furthermore, the proposed antecedents and consequences of customer engagement in the online brand community were discussed. This chapter discussed the six suggested hypotheses regarding both antecedents and consequences separately. The relationship between customer engagement and other constructs provided evidence for nomological validity of the scale. The final chapter of the current research presents the two areas of contribution, academic and managerial. Limitations of the current research and the directions for further research are then discussed.

Chapter Nine

Conclusions

9.1 Introduction

The previous chapter outlined the comparison between the literature and the primary data analysis as part of the current research.

This final chapter of the current research presents the conclusions as well as the directions for future research. This chapter includes the following sections: the first three sections address the theoretical, managerial and methodological contributions to knowledge. The limitations of the current research are then presented. The final section makes suggestions for further research regarding customer engagement in the online brand community.

9.2 Contributions of the Current Research

The contributions of the current research are discussed with respect to Corley and Gioia's suggestions to address "What constitutes a theoretical contribution?" Corley and Gioia (2011) concluded that originality and utility are the two main dimensions in which our field values theoretical contributions. They noted that these two dimensions are further divided into two subcategories. Originality can be categorised as either incremental or revelatory insight while the utility dimension parses into practically or scientifically useful. Incremental insight is defined as "advancement [of] our theoretical understanding on a given topic" and the revelatory insight rests in the idea that "contribution arises when theory reveals what we otherwise had not seen, known, or conceived". Regarding the second dimension, scientific utility is perceived "as an advance that improves conceptual rigor or the specificity of an idea and/or enhances its potential to be operationalized and tested" and practical utility is seen as "arising when theory can be directly applied to the problems practicing managers and other organisational practitioners face". Following Corley and Gioia's view, the contribution of the current research is discussed in the following sections.

9.2.1 Theoretical Contributions

Regarding the incremental aspect of the originality dimension, the current research extends initial research on customer engagement in the online brand community by providing a better understanding of the CE construct and its dimensions. Moreover, the current research contributes to enhancing academic insight into customer behaviour in the online brand community and conceptually distinguishes the CE concept from other similar concepts in the marketing literature, such as involvement, interaction and participation. The other important contribution with respect to original incremental insight is related to use of the Elaboration Likelihood Model to explicate customer engagement in online brand communities. The current research provides initial insights into the application of ELM that can be applied to explain customer behaviour in online brand communities by specifying antecedents related to central and peripheral routes. Moreover, the current research contributes insights regarding the role of CE in the advancement of the broader theoretical perspectives of relationship marketing. Additionally, the current research addresses the calls for further research from marketing scholars (Brodie and Hollebeek, 2011; Brodie et al., 2013; Hollebeek, 2011b; Leeflang et al., 2009) to expand the dimensions of customer engagement as a multi-dimensional construct.

With respect to original revelatory insights, the current research followed the extant scaling literature (Churchill, 1979; Devellis, 2012; Netemeyer et al., 2003) and contributes further insights into the dimensionality of the CE concept "within the broader theoretical area of interactive customer/brand relationships" by developing a reliable and valid measure of CE (Hollebeek et al., 2014). To the best of the author's knowledge, the current research and Baldus et al.'s study provides the first empirical studies developing a CE scale that is based on the exploratory research of Brodie et al. (2010). Following the scale development process suggested by Churchill (1979), the current research has empirically demonstrated that CE is a second-order construct comprising five first-order dimensions. The CE scale was developed though three phases including two independent samples and across different brand categories and online brand communities. The analyses suggest the CE scale has construct validity and the five dimensions, socialising, sharing, advocating, co-development and learning, are distinct from each other.

The current research has developed the CE measurement scale through three phases following the guideline suggested by Churchill (1979) that contributes insight into the nature of customer

engagement and importantly enables future empirical researchers to use this construct in their models and measure it, demonstrating scientific usefulness. The findings revealed that customer engagement influences customer behaviour related to brand (brand loyalty) and community itself (customer satisfaction). A reliable and valid measure of CE can be used to investigate further relationships with other customer- and organisation-related consequences. Additionally, other potential antecedents can be adopted to explore their relationships with customer engagement and thus this will contribute to gaining a better understanding of the motivations behind engagement in the online brand community. In addition, for the first time, the current research has applied the ELM in order to study customer engagement concept. Researchers can further test the engagement model based on the ELM across different brand communities and include more constructs to develop the proposed model. As a result, scale development for customer engagement construct and using the ELM to explore customer behaviour in the online brand community demonstrate the study's scientific usefulness, which provides a path for future study.

Finally, the current research contributes insights into the growing body of research on 'engagement' emphasised by the MSI and AMA. The current research has followed two pioneering studies addressing the role of customer engagement in online brand communities. Consistent with the findings, the current research suggests the conceptualisation of CE in online brand community as:

A multi-dimensional behaviour resulting from a psychological and cognitive state of perceiving association with a brand in the context of the online brand community.

Additionally, the current research explicitly positioned customer engagement as a central construct and proposed and empirically tested the relationships amongst under-explored constructs. The key role of engagement specifically in the online brand community has been highlighted by proposing the six hypotheses. The findings of this study revealed that considering group norm as an antecedent of customer engagement needs further investigation.

9.2.2 Managerial and Practical Contributions

According to Corley and Gioia (2011), practical utility insight is seen when the focus of the developed theory is on "prescriptions for structuring and organising around a phenomenon and less on how science can further delineate or understand the phenomenon" or, as Hambrick

(2007) suggests, through "the observation of real-life phenomena, not from scholars struggling to find holes in the literature". Thus, in addition to the scholarly contributions, there are three important practical utility insights, as follows.

Firstly, the developed model can enhance managers' understanding regarding customer engagement in order to design broader relationship marketing. The proposed model initially highlights the key role of CE to specific brand loyalty and customer satisfaction outcomes. Considering brand loyalty and customer satisfaction as determinants of successful organisations, the current research suggests the potential contribution of CE as a valuable factor. Importantly, the findings revealed that CE exhibits a stronger effect on brand loyalty, which may present useful information for managers. The identification of the variables – Socialising, Sharing, Advocating, Co-developing and Learning – informs the development of activity strategies that can influence the positive development of CE. This means that brands can dedicate space and time for each one of these activities and develop strategies for facilitating these activities in their online brand communities.

Secondly, conceptualisation of customer engagement and development of the scale provide clearer understanding of the customer relationship with community and brand in online brand communities. Managers can adopt the CE scale to assess the level of customer engagement in an online brand community. The current research indicated the dimensions of CE with related valid and reliable measures. Managers could use the measure to assess the CE in each dimension and provide a broader understanding of how customer behaviour is shaped in an online brand community. Having such a tool to assess the different dimensions of customer engagement can help managers to carefully consider all dimensions when developing relationship marketing tactics. Furthermore, the CE developed scale allows organisations to classify the community members based on their engagement dimension. As Baldus et al. (2015) suggest, having an accurate profile of community members helps managers to develop strategic marketing actions to best engage their community base.

Thirdly, the current research demonstrated the important antecedents of customer engagement in the online brand community. Information quality, identification with brand and identification with community were found to have a significant influence on customer engagement. Considering customer engagement as an important objective of brand community development, it can be important for managers to know how to encourage the community members to engage more positively in the community. In addition, the important role of customer engagement to

predict future customer behaviour has been previously discussed. Therefore, the current research suggests that providing and controlling the quality of information and establishing long-term online marketing strategies to create a strong relationship between customers with brand and community are beneficial. Hence, the current research provides recommendations to managers and practitioner with the mentioned implications.

9.2.3 Methodological Contributions

The current research also contributes to knowledge at the methodological level within the data collection and content validity stages. Regarding the data collection, the current research utilised Amazon Mechanical Turk (AMT) to access to a large pool of online users to develop the scale. The objective of the current research was to develop a reliable and valid scale to measure the customer engagement in OBC. Data collection from AMT provided strong evidence for the higher level of generalisability compared to the similar scale development studies. Data collection from university's students, one specific OBC limits the generalisability of the findings of the scale development studies. As Brodie et al. (2013) suggests, there is a need to examine large groups of online community members and broader range of products in order to develop the CE scale. Using AMT provides this opportunity for marketing studies to access reliable data from a wide range of customers at relatively low cost that supports generalisability of findings. In addition, using AMT enables researcher to test the response bias easily to increase the reliability of data.

Regarding the content validity, the current research followed the quantitative technique suggested by Anderson and Gerbing (1991) to provide further evidence for the content validity in the first phase. Apart from literature support, this objective technique can be used as a promising tool to examine the content validity of the CE scale.

9.3 Limitations of the Current Research

Despite the contributions mentioned in the previous sections, the current research is also subject to several limitations. The first limitation concerns sampling and recruiting respondents from Amazon Mechanical Turk (AMT) for the second and third phases of the current research. The AMT population does not represent the online population and particularly the population of OBC members. Furthermore, studies suggest that using the AMT is best suited to random population sampling, but it is less successful with studies that require more precisely defined populations (Paolacci et al., 2010; Berinsky et al., 2012). However, as discussed in Section 5.5.2.4, the AMT

respondents were found to be more diverse compared to online and student respondents. In addition, several studies have found that the data provided by AMT are reliable and valid. However, the current research attempted to reduce the potential limitation of using AMT respondents by the techniques mentioned in Section 5.5.2.4.

The second potential limitation is due to the nature of the current research. Similar to any scale development research, further validation and application across independent samples and different brands are required. Future research using the scale developed in the current research is required to provide further evidence of generalisability. Regarding the first phase of the current research, employing a qualitative stage including in-depth interviews and focus groups with members of the community could have been useful to generate more items. Churchill (1979: 68) stated, "focus groups can reveal the specific language the study population uses to communicate regarding these construct". And importantly he suggested that the information from the focus groups could be used "to improve the phrasing of item stems, and thus reduce measurement error". Furthermore, the information might be useful to identify more aspects of customer engagement and provide a clearer image of customer relationship with brand in the online context.

Third, the findings of the current research are subject to the typical limitations of cross-sectional, survey-based research. The data collection regarding customer engagement behaviour in the current study is limited to a specific point in time. Therefore, as Hollebeek et al. (2014) suggest, "research adopting longitudinal designs would serve to contribute insights into specific CBE phases or cycles by describing focal patterns of change, which may be investigated by using time series or latent growth curve analysis".

A final potential limitation concerns the identified central cues and peripheral cues in the proposed model of this study based on the ELM theory. The current research adopted the antecedents of customer engagement from prior research that has used them either as central or peripheral cues. However, due to its main objective being to develop a reliable and valid CE scale, the current research was not concerned with the psychological aspects of customer engagement in the online brand community. Therefore, the classification of antecedents into central and peripheral cues was based on the prior research. Therefore, the validity of this classification needs to be considered in future studies.

9.4 Directions for Future Research

The limitations of the current research mentioned in the previous section suggest a number of directions for further research. First of all, further research needs to test the newly developed scale across different product categories to assess if the scale is invariant across different products and services. One possible categorisation could be functional and symbolic products as well as service brands. This would provide further validity of the measure across a broader set of products and brands. Second, future research needs to use the CE scale across different classifications of online brand communities. As Zagila (2013) suggests, future research should investigate the diverse subtypes of online brand communities such as research-oriented online brand communities to enhance the understanding of customer engagement. Regarding the proposed model, future research needs to adopt the model to test across different products and communities. Specifically, the adoption of this approach will lead to more generalisable findings.

In line with Brodie et al. (2013), the current research suggests employing qualitative and quantitative methods to investigate customer engagement in online brand communities. Due to complexity of this emerging research area in the field of marketing, "future empirical research employing a pluralistic approach, integrating the use of interpretative and quantitative methods, is appropriate" (Brodie et al., 2013). Although the current research was based on exploratory research, using both methods will offer more insight into the nature of engagement in online brand communities.

The proposed hypotheses would be more theoretically interesting if a future study identified useful boundary conditions by examining moderators. The current research suggests two important groups of moderators: community factors and customer factors. Community factors include the community size, customer- and company-initiated community, and the customer factors include customer expertise and membership duration. Further research needs to incorporate studies examining the moderators to highlight the differences between various types of brand communities as well as the influence of customer factors on the level of engagement in online brand communities.

Finally, online brand communities are becoming important in today's marketplace and, as Brodie et al. (2013) suggest, "the online community prevalence does not imply the substitution of online, for offline, activity". The important direction of future research would be to examine the relationship between customer behaviour in the online environment and its consequences

offline. For example, future research needs to address this question: "Is there a significant relationship between customer engagement in the online brand community and customer intention to buy the product?" or "Is there a significant relationship between customer engagement in the online brand community and word-of-mouth recommendation?" Therefore, the current research suggests a modified version of the customer engagement model in the online brand community including moderator variables and "physical world" consequences (see Figure 18).

Figure 18 The Proposed Model for Further Research about Customer Engagement in the Online Brand Community
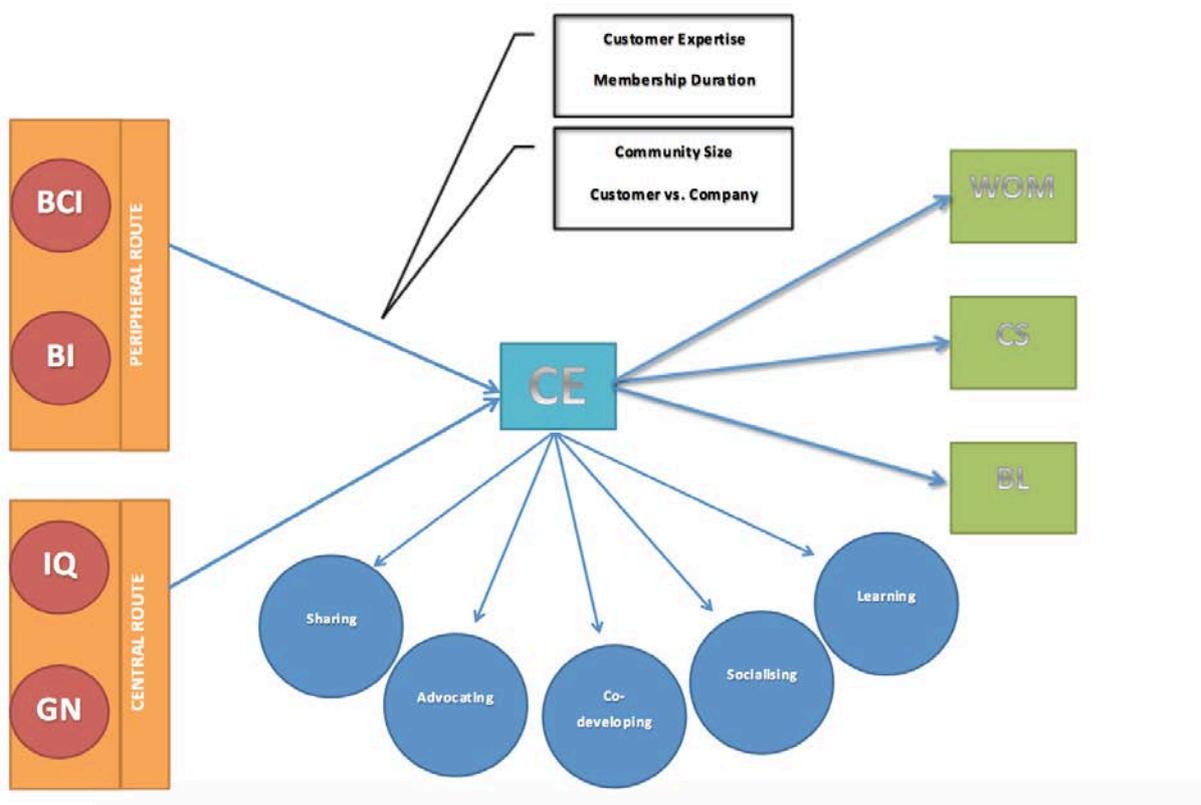
References

Abdul-Ghani, E., Hyde, K. F., & Marshall, R. (2011). Emic and etic interpretations of engagement with a consumer-to-consumer online auction site. *Journal of Business Research, 64*(10), 1060-1066.

Acedo, F. J., & Casillas, J. C. (2005). Current paradigms in the international management field: An author co-citation analysis. *International Business Review, 14*(5), 619-639.

Ajzen, I. (1991). The theory of planned behaviour. *Organisational Behaviour and Human Decision Processes, 50*, 179-211.

Alder, P., & Kwon, S. (2002). Social capital: Prospects for a new concept. *The Academy of Management Review, 27*(1), 17-40.

Algesheimer, R., Dholakia, U. M., & Herrmann, A. (2005). The social influence of brand community: Evidence from European car clubs. *Journal of Marketing, 69*(3), 19-34.

Alon, A., Brunel, F. B., & Schneier Siegal, W. L. (2005). Ritual behaviour and community life cycle: Exploring the social psychological roles of net rituals in the development of online consumption communities. In C. Haugvedt, K. Machleit & R. Yalch (Eds.), *Online consumer psychology: Understanding how to interact with consumers in the virtual world* (). Erlbaum: Hillsdale, NJ.

American Marketing Association, A. (2013). *2013 research priority*. Retrieved from https://www.ama.org/multimedia/Webcasts/Pages/expanding-social-brand-engagement-52313.aspx

Anderson, D. L. (2012). *Marketing with web 2.0: Social networking and viral marketing* (first ed.). San Diego: Cognella.

Anderson, J., & Gerbing, D. (1988). Structural equation modelling in practice: A review and recommended two-step approach. *Psychological Bulletin, 103*(3), 411-423.

Anderson, E. W., & Fornell, C. (1994). *A customer satisfaction research prospectus. service quality: New directions in theory and practice.* Thousand Oaks, CA: SAGE Publications, Inc.

Anderson, J. C. (1991). Predicting the performance of measures in a confirmatory factor analysis with a pretest assessment of their substantive validities. *Journal of Applied Psychology, 76*(5), 732-740.

Anderson, R. E., & Srinivasan, S. S. (2003). E-satisfaction and e-loyalty: A contingency framework. *Psychology and Marketing, 20*(2), 123-138.

Armstrong, S., & Overton, T. S. (1977). Estimating nonresponse bias in mail surveys. *Journal of Marketing Research, 14*, 396-402.

Ashforth, B. E., Harrison, S. H., & Corley, K. G. (2008). Identification in organizations: An examination of four fundamental questions. *Journal of Management, 34*(3), 325-374.

Ashley, C., Noble, S. M., Donthu, N., & Lemon, K. N. (2011). Why customers won't relate: Obstacles to relationship marketing engagement. *Journal of Business Research, 64*(7), 749-756.

Avnet, T., & Higgins, E. T. (2006). How regulatory fit affects value in consumer choices and opinions. *Journal of Marketing Research, 43*(1), 1-10.

Babbie, E. R. (2013). *The practice of social research* (13th ed.). Belmont: Wadsworth.

Backhaus, K., Lugger, K., & Koch, M. (2011). The structure and evolution of business-to-business marketing: A citation and co-citation analysis. *Industrial Marketing Management, 40*(6), 940-951.

Bagozzi, R. P. (1995). Reflections on relationship marketing in consumer markets. *Journal of the Academy of Marketing Science, 23*(4), 272-277.

Bagozzi, R. P., & Dholakia, U. M. (2002). Intentional social action in virtual communities. *Journal of Interactive Marketing, 16*(2), 2-21.

Bagozzi, R. P., & Dholakia, U. M. (2006). Antecedents and purchase consequences of customer participation in small group brand communities. *International Journal of Research in Marketing, 23*(1), 45-61.

Bagozzi, R. P., & Yi, Y. (1988). On the evaluation of structural equation models. *Journal of the Academy of Marketing Science, 16*(1), 74-94.

Baldus, B. J., Voorhees, C., & Calantone, R. (2015). Online brand community engagement: Scale development and validation. *Journal of Business Research, 68*(5), 978-985.

Bateman, P. J., Gray, P. H., & Butler, B. S. (2011). The impact of community commitment on participation in online communities. *Information Systems Research, 22*(4), 841-854.

Bell, J. (2005). *Doing your research project: A guide for first-time researchers in education, health and social science*. Buckingham: McGraw-Hill.

Berinsky, A. J., Huber, G. A., Lenz, G. S., & Alvarez, E. b. R. M. (2012). Evaluating online labour markets for experimental research: Amazon.com's mechanical turk. *Political Analysis, 20*(3), 351-368.

Bhattacharya, C. B., & Sen, S. (2003). Consumer-company identification: A framework for understanding consumers' relationships with companies. *Journal of Marketing, 67*(2), 76-88.

Bhattacherjee, A., & Sanford, C. (2006). Influence process for information technology acceptance: An elaboration likelihood model. *MIS Quarterly, 30*(4), 805-825.

Boyd, D. M., & Ellison, N. B. (2007). Social network sites: Definition, history, and scholarship. *Journal of Computer-Mediated Communication, 13*, 210-230.

Boyer, K., & Hult, G. (2005). Extending the supply chain: Integrating operations and marketing in the online grocery industry. *Journal of Operations Management, 23*(6), 642-661.

Brodie, R. J., & Hollebeek, L. D. (2011). Advancing and consolidating knowledge about customer engagement. *Journal of Service Research, 14*(3), 283-284.

Brodie, R. J., Illic, A., Juric, B., & Hollebeek, L. (2013). Consumer engagement in a virtual brand community: An exploratory analysis. *Journal of Business Research, 66*, 105-114.

Brown, J., Broderick, A. J., & Lee, N. (2007). Word of mouth communication within online communities: Conceptualizing the online social network. *Journal of Interactive Marketing, 21*(3), 2-20.

Bryman, A. (2012). *Social research methods* (fourth ed.). Oxford, UK: Oxford University Press.

Bryman, A., & Bell, E. (2007). *Business research methods*. Oxford New York: Oxford University Press.

Byrn, B. (2010). In 2ed (Ed.), *Structural equation modeling with AMOS: Basic concepts, applications, and programming*. New York: Routledge.

Calder, B. J., Malthouse, E. C., & Schaedel, U. (2009). An experimental study of the relationship between online engagement and advertising effectiveness. *Journal of Interactive Marketing, 23*(4), 321-331.

Carlson, B. D., Suter, T. a., & Brown, T. J. (2008). Social versus psychological brand community: The role of psychological sense of brand community. *Journal of Business Research, 61*, 284-291.

Carmines, E. G., & Zeller, R. A. (1979). In *Reliability and validity assessment* 1st (Ed.). California: Sage.

Casalo, L. V., Flavian, C., & Guinaliu, M. (2010). Determinants of the intention to participate in firm-hosted online travel communities and effects on consumer behavioral intentions. *Tourism Management, 31*(6), 898-911.

Castle, N. W., Combe, I. A., & Khusainova, R. (2014). Tracing social influence in responses to strategy change in an online community. *Journal of Strategic Marketing, 22*(4), 357-375.

Cattell, R. B. (1966). The scree test for the number of factors. *Mulitivariate Behavioural Research, 1*(2), 245-276.

Chao-Min Chiu, Eric T.G. Wang, Fu-Jong Shih, & Yi-Wen Fan. (2011). Understanding knowledge sharing in virtual communities: An integration of expectancy disconfirmation and justice theories. *Online Information Review, 35*(1), 134-153.

Chatterjee, P. (2001). Online reviews: Do consumers use them? *Association for Consumer Research,* 129-134.

Chen, Y. F., Harper, M., Konstan, J., & Xin, S. (2010). Social comparisons and contributions to online communities: A field experiment on MovieLens. *The American Economic Review, 100*(4), 1358-1398.

Cheung, C. M. K., & Lee, M. K. O. (2010). A theoretical model of intentional social action in online social networks. *Decision Support Systems, 49*(1), 24-30.

Chevalier, J. A., & Mayzlin, D. (2006). The effect of word of mouth on sales: Online book reviews. *Journal of Marketing Research, 43*(3), 345-354.

Chung, J. E., Park, N., Wang, H., Fulk, J., & McLaughlin, M. (2010). Age differences in perceptions of online community participation among non-users: An extension of the technology acceptance model. *Computers in Human Behavior, 26*(6), 1674-1684.

Churchill, G. A. (1979). Paradigm for developing better measures of marketing constructs. *Journal of Marketing Research, 16*(1), 64-73.

Clark, L. A., & Watson, D. (1995). Constructing validity: Basic issues in objective scale development. *Psychological Assessment, 7*(3), 309-319.

Conway, J. M., & Huffcutt, A. I. (2003). A review and evaluation of exploratory factor analysis practices in organizational research. *Organizational Research Methods, 6*(2), 147-168.

Corley, K. G., & Gioia, D. A. (2011). Building theory about theory building: What constitutes a theoretical contribution. *Academy of Management Review, *, 12-32.

Coulter, R. A., Price, L. L., & Feick, L. (2003). Rethinking the origins of involvement and brand commitment: Insights from postsocialist central Europe. *Journal of Consumer Research, 30*(2), 151-169.

Cronbach, L. J., & Meehl, P. E. (1995). Construct validity in psychological tests. *Psychological Bulletin, 52*(4)

Curran, P. J., West, S. G., & Finch, J. F. (1996). The robustness of test statistics to nonnormality and specification error in confirmatory factor analysis. *Psychological Methods, 1*(1), 16-29.

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly, 13*(3), 319-340.

Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User acceptance of computer technology: A comparison of two theoretical models. *Management Science, 35*, 982-1003.

De Valck, K., Van Bruggen, G. H., & Wierenga, B. (2009). Virtual communities: A marketing perspective. *Decision Support System, 47*, 185-203.

De-sheng, L., & Guang-ya, S. (2011). A social influence model based on interpersonal relationship. *Instrumentation, Measurement, Computer, Communication and Control, 2011 First International Conference On,* 581-584.

Devellis, R. F. (2012). *Scale development: Theory and applications*. London: Sage.

Dholakia, U. M., Blazevic, V., Wiertz, C., & Algesheimer, R. (2009). Communal service delivery: How customers benefit from participation in firm-hosted virtual P3 communities. *Journal of Service Research, 12*(2), 208-226.

Dholakia, U. M., Bagozzi, R. P., & Pearo, L. K. (2004). A social influence model of consumer participation in network- and small-group-based virtual communities. *International Journal of Research in Marketing, 21*, 241-263.

Diamantopoulos, A., Sarstedt, M., Fuchs, C., Wilczynski, P., & Kaiser, S. (2012). Guidelines for choosing between multi-item and single-item scales for construct measurement: A predictive validity perspective. *Journal of the Academy of Marketing Science, 40*(3), 434-449.

Du Plessis, P. J., Rousseau, G. G., & Blem, N. H. (1990). In 1st (Ed.), *Consumer behaviour : A South African perspective*. South Africa: Southern Book Publishers.

Engel, J., Miniard, P., & Blackwell, R. (2005). *Consumer behaviour*. New York: Dryden Press.

Epstein, S. (1980). The self concept: A review and the proposal of an integrated theory of personality. In E. Staub (Ed.), *Personality: Basic aspects and current research* (pp. 82-132). Englewood Cliffs: Prentice Hall.

Eriksson, K., & Simpson, B. (2010). Emotional reactions to losing explain gender differences in entering a risky lottery. *Judgment and Decision Making, 5*(3), 159-163.

Evans, J. R., & Mathur, A. (2005). The value of online surveys. *Internet Research, 15*(2), 195.

Field, A. (2013). *Discovering statistics using IBM SPSS statistics.* London: Sage.

Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention, and behavior: An introduction to theory and research*. MA: Addison-Wesley.

Fleming, M. A., & Petty, R. E. (2008). Identity and persuasion: An elaboration likelihood approach. In D. J. Terry, & M. A. Hogg (Eds.), *Attitudes, behaviour, and social context: The role of norms and group membership* (pp. 171-199). New Jersey: Psychology Press.

Fornell, C. (1992). A national customer satisfaction barometer: The Swedish experience. *Journal of Marketing, 56*(1), 6-21.

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research, 18*(1), 39-50.

George, J. (2004). The theory of planned behaviour and internet purchasing. *Internet Research, 14*(3), 198-212.

Gerbing, D. W., & Anderson, J. C. (1988). An updated paradigm for scale development incorporating unidimensionality and its assessment. *Journal of Marketing Research, 25*(2), 186-192.

Godson, M. (2009). *Relationship marketing*. New York: Oxford University Press Inc.

Gorsuch, R. L. (1983). *Factor analysis.* New Jersey: Erlbaum.

Gummerus, J., Liljander, V., Weman, E., & Pihlstrom, M. (2012). Customer engagement in a facebook brand community. *Management Research Review, 35*(9), 857-877.

Gusfield, J. (1978). *Community: A critical response*. New York: Harper Row.

Gwebu, K. L., Wang, J., & Guo, L. (2014). Continued usage intention of multifunctional friend networking services: A test of a dual-process model using Facebook. *Decision Support Systems, 67*, 66-77.

Hair, J. F., Black, W. C., Rabin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis: A global perspective*. New Jersey: Pearson Prentice Hall.

Hajli, N., Shanmugam, M., Powell, P., & Love, P. E. D. (2015). A study on the continuance participation in on-line communities with social commerce perspective. *Technological Forecasting and Social Change, 96*, 232-241.

Hambrick, D. C. (2007). The field of management's devotion to theory: Too much of a good thing? *Academy of Management Journal, 50*, 1346-1352.

Hamilton, V. L. (2004). Identification as a challenge to dual-process theories of persuasion. In A. H. Eagly, R. M. Baron & V. L. Hamilton (Eds.). The social psychology of group identity and social conflict: Theory, application, and practice. APA decade of behavior volumes. (pp. 65-76). Washington: American Psychological Association.

Harrison-Walker, L. J. (2001). The measurement of word-of-mouth communication and an investigation of service quality and customer commitment as potential antecedents. *Journal of Service Research, 4*(1), 207-215.

Harwood, T. G., Broderick, A. J., & Garry, T. (2008). *Relationship marketing: Perspectives, dimensions and contexts*. Buckingham: McGraw-Hill.

Hennig-Thurau, T., Gwinner, K. P., Walsh, G., & Gremler, D. D. (2004). Electronic word-of-mouth via consumer-opinion platforms: What motivates consumers to articulate themselves on the internet? *Journal of Interactive Marketing, 18*(1), 38-52.

Hoffman, D. L., & Novak, T. P. (2000). Marketing in hypermedia computer-mediated environments: *Conceptual Foundations*.*60*, 261-290.

Hollebeek, L. D. (2011a). Demystifying customer brand engagement: Exploring the loyalty nexus. *Journal of Marketing Management, 27*, 785-807.

Hollebeek, L. D. (2011b). Exploring customer brand engagement: Definition and themes. *Journal of Strategic Marketing, 19*(7), 555-573.

Hollebeek, L. D., Glynn, M. S., & Brodie, R. J. (2014). Consumer brand engagement in social media: Conceptualization, scale development and validation. *Journal of Interactive Marketing, 28*(2), 149-165.

Hoyer, W. D., & MacInnis, D. J. (2007). *Consumer behaviour*. (4th ed.) New York, USA: Houghton Mifflin Company.

Hughes, D. E., & Ahearne, M. (2010). Energising the reseller's sales force: The power of brand identification. *Journal of Marketing, 74*, 81-96.

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.

Karimi, S. (2013). *A purchase decision-making process model of online consumers and its influential factor a cross sector analysis.* University of Manchester (Doctoral Dissertation).

Kate, S. (2010). *Virtual consumer communities' social influence effects on product attitude change: A social capital perspective.* VU University of Amsterdam (Doctoral dissertation).

Kelman, H. C. (1974). *Social influence and linkages between the individual and the social system: Further thoughts on the processes of compliance, identification, and internalization*. Chicago: Aldine.

Khazanchi, D., & Munkvold, E. B. (2003). On the rhetoric and relevance of IS research paradigms: A conceptual framework and some propositions. *Proceedings of the 36th Hawaii International Conference on System Sciences (HICSS03),* Island of Hawaii, USA. 252.

Kim, J., & Park, J. (2005). A consumer shopping channel extension model: Attitude shift toward the online store. *Journal of Fashion Marketing and Management, 9*(1), 106-121.

Kim, A. J. (2000). *Community building on the web*. Berkeley: Peachpit Press.

Kitchen, P. J., Kerr, G., Schultz, D. E., McColl, R., & Pals, H. (2014). The elaboration likelihood model: Review, critique and research agenda. *European Journal of Marketing, 48*(11), 2033-2050.

Klein, H., & Myers, M. D. (1999). A set of principles for conducting and evaluating interpretive field studies in information systems. *MIS Quarterly, 23*(1), 67-94.

Kline, R. B. (2011). In 3rd (Ed.), *Principles and practice of structural equation modelling*. New York: The Guilford Press.

Knippenberg, D. V. (2008). In 3rd (Ed.), *Group norms, prototypicality, and persuasion*. New Jersey: Psychology Press.

Kothari, C. R. (2004). *Research methodology: Methods and techniques*. (2nd ed.) New Delhi: New Age International.

Kozinets, R. V. (1999). E-tribalized marketing?: The strategic implications of virtual communities of consumption. *European Management Journal, 17*(3), 252-264.

Kozinets, R. V., De Valck, K., Wojnicki, A. C., & Wilner, S. (2010). Networked narratives: Understanding word-of-mouth marketing in online communities. *Journal of Marketing, 74*, 71-89.

Kuo, Y., & Feng, L. (2013). Relationships among community interaction characteristics, perceived benefits, community commitment, and oppositional brand loyalty in online brand communities. *International Journal of Information Management, 33*, 948-962.

LaBarbera, P. A., & Mazursky, D. (2013). A longitudinal assessment of consumer satisfaction/dissatisfaction: The dynamic aspect of the cognitive process. *Journal of Marketing Research, 20*(4), 393-404.

Lam, S. K., Ahearne, M., Hu, Y., & Schillewaert, N. (2010). Resistance to brand switching when a radically new brand is introduced: A social identity theory perspective. *Journal of Marketing, 74*, 128-146.

Lecinksi, J. (2012). *Winning the zero moment of truth* Zero Moment of Truth. New York: Google

Leeflang, P., Bijmolt, T., Doorn, J. v., Hanssens, D. M., & Heerde, H. (2009). *Creating lift versus building the base : Current trends in marketing dynamics*. Amsterdam: Elsevier.

Legris, P., Ingham, J., & Collerette, P. (2003). Why do people use information technology? A critical review of the technology acceptance model. *Information & Management, 40*, 191-204.

Li, C. (2013). Persuasive messages on information system acceptance: A theoretical extension of elaboration likelihood model and social influence theory. *Computers in Human Behavior, 29*, 264-275.

Lin, H. (2008). Determinants of successful virtual communities: Contributions from system characteristics and social factors. *Information & Management, 45*(8), 522-527.

Liu, I., Chen, M. C., Sun, Y. S., Wible, D., & Kuo, C. (2010). Extending the TAM model to explore the factors that affect intention to use an online learning community. *Computers & Education, 54*(2), 600-610.

Loevinger, J. (1957). Objective tests as instruments of psychological theory : Monograph supplement. *Psychological Report, 3*, 635-694.

MacKenzie, S. B., Podsakoff, P. M., & Jarvis, C. B. (2005). The problem of measurement model misspecification in behavioral and organizational research and some recommended solutions. *Journal of Applied Psychology, 90*(4), 710-730.

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.

Malhotra, N. K., & Birks, D. F. (2006). *Marketing research : An applied approach* (3rd ed.). London: Prentice Hall.

Malhotra, N. K., Kim, S. S., & Ashutosh, P. (2006). Common method variance in is research: A comparison of alternative approaches and a reanalysis of past research. *Management Science, 52*(12), 1865-1883.

Malthouse, E. C. (2001). Factor analysis: Checking assumptions of normality before conducting factor analyses. *Journal of Consumer Psychology, 10*(1), 75-82.

Mason, W., & Suri, S. (2012). Conducting behavioral research on Amazon's mechanical turk. *Behavior Research Methods, 44*, 1-23.

Mavis, A. T., Noble, S. M., & Noble, C. H. (2010). The influence of C2C communications in online brand communities on customer purchase behavior. *Journal of Academy of Marketing Science, 38*, 634-653.

McAlexander, J. H., & Schouten, J. W. (1998). Brandfests: Servicescapes for the cultivation of brand equity. *Servicescapes: The concept of place in contemporary markets* (pp. 377-402). Chicago: American Marketing Association.

McKercher, B., Denizci-Guillet, B., & Ng, E. (2012). Rethinking loyalty. *Annals of Tourism Research, 39*(2), 708-734.

McKinney, V., Yoon, K., & Zahedi, F. (2002). The measurement of web-customer satisfaction: An expectation and disconfirmation approach. *Information Systems Research, 13*(3), 296-315.

Mollen, A., & Wilson, H. (2010). Engagement, telepresence and interactivity in online consumer experience: Reconciling scholastic and managerial perspectives. *Journal of Business Research, 63*, 919-925.

Morgan, R. M., & Hunt, S. D. (1994). The commitment-trust theory of relationship marketing. *Journal of Marketing, 58*, 20-38.

Morris, J. D., Woo, C., & Singh, A. J. (2005). Elaboration likelihood model: A missing intrinsic emotional implication. *J Target Meas Anal Mark, 14*(1), 79-98.

MSI - Marketing Science Institute. (2010). *2010-2012 research priorities*. Retrieved 16 May 2010 from http://www.msi.org/research/index.cfm?id=271

Mukherjee, A., Satija, D., Goyal, T. M., Mantrala, M. K., & Zou, S. (2012). Are indian consumers brand conscious? insights for global retailersnull. *Asia Pac Jnl of Mrketing & Log, 24*(3), 482-499.

Muniz, A., & O'Guinn, T. (2001). Brand community. *Journal of Consumer Research, 27*(4), 412-432.

Nam, J., Ekinci, Y., & Whyatt, G. (2011). Brand equity, brand loyalty and consumer satisfaction. *Annals of Tourism Research, 38*(3), 1009-1030.

Nambisan, S., & Baron, R. A. (2009). Virtual customer environments: Testing a model of voluntary participation in value co-creation activities. *Journal of Product Innovation Management, 26*(4), 388-406.

Neff, J. (2007). OMD proves the power of engagement. *Advertising Age, 78*(27), 3-11.

Nelson, R. R., Todd, P. A., & Wixom, B. H. (2005). Antecedents of information and system quality, an empirical examination within the context of data warehousing. *Journal of Management Information Systems, 21*(4), 199-235.

Netemeyer, R. G., Bearden, W. O., & Sharma, S. (2003). *Scaling procedures: Issues and application*. London: Sage.

Neuman, W. L. (2011). *Social research methods: Qualitative and quantitative approaches* (4th ed.). Boston: Allyn And Bacon.

Nunnally, J. C. (1978). *Psychometric theory*. New York: McGraw-Hill.

Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory*. New York: McGraw-Hill.

Oates, B. J. (2006). *Researching information systems and computing*. London: Sage Publication.

Oliver, R. L. (1980). A cognitive model of the antecedents and consequences of satisfaction decisions. *Journal of Marketing Research, 17*(4), 460-469.

Oliver, R. L. (1997). *Satisfaction: A behavioral perspective on the consumer*. New York: McGraw-Hill.

Palmatier, R. W., Dant, R. P., Grewal, D., & Kenneth, E. R. (2006). Factors influencing the effectiveness of relationship marketing: A meta-analysis. *Journal of Marketing, 70*, 136-153.

Paolacci, G., Chandler, J., & Ipeirotis, P. (2010). Running experiments on amazon mechanical turk. *Judgment and Decision Making, 5*(5), 411-419.

Park, N., & Yang, A. (2012). Online environmental community members intention to participate in environmental activities: An application of the theory of planned behavior in the Chinese context. *Computers in Human Behavior, 28*(4), 1298-1306.

Petty, R. E., & Wegener, D. (1999). In Trope, Y. (Ed.), *The elaboration likelihood model: Current status and controversies.* New York: Guilford Press.

Phillips, B., McQuarrie, E., & Deighton, J. (2010). Narrative and persuasion in fashion advertising. *Journal of Consumer Research, 37*(3), 368-392.

Postmes, T., Spears, R., & Lea, M. (2000). The formation of group norms in computer-mediated communication. *Human Communication Research, 26*(3), 341-371.

Prahalad, C. K., & Ramaswamy, V. (2004). Co-creating unique value with customers. *Strategy & Leadership, 32*(3), 4-9.

Preece, J., & Maloney-Krichmar, D. (2005). Online communities: Design, theory, and practice. *Journal of Computer-Mediated Communication, 10*(4), 0-0.

Rafaeli, S., & Sudweeks, F. (1997). Networked interactivity. *Journal of Computer-Mediated Communication, 2*(4), 0-0.

Rauniar, R., Rawski, G., Yang, J., & Johnson, B. (2014). Technology acceptance model (TAM) and social media usage: An empirical study on Facebook. *Journal of Ent Info Management, 27*(1), 6-30.

Rausch, L. (2002). Cross-cultural analysis of brand consciousness. *Journal of Undergraduate Research,* (5), 55-61.

Ray, S., Kim, S. S., & Morris, J. G. (2014). The central role of engagement in online communities. *Information Systems Research, 25*(3), 528-546.

Robson, C. (2011). In 1st (Ed.). *Real world research*. New York: John Wiley & Sons Ltd.

Saunders, M., Lewis, P., & Adrian, T. (2003). *Research method for business students* (3rd ed.). Essex: Pearson Education Limited.

Sawhney, M., Verona, G., & Prandelli, E. (2005). Collaborating to create: The internet as a platform for customer engagement in product innovation. *Journal of Interactive Marketing, 19*(4), 4-17.

Schiffman, L., & Kanuk, L. (2007). *Consumer behaviour* (9th ed.). New Jersey: Pearson Perentice Hall.

Schlosser, A. E. (2005). Posting versus lurking: Communicating in a multiple audience context. *Journal of Consumer Research, 32*(2), 260-265.

Schuman, H. (1992). Context effects: State of the past/state of the art in *Context effects in social and psychological research* (pp. 5-20). New York: Verlag.

Scott, J., & Marshall, G. (2012). *A dictionary of psychology*. Oxford: Oxford University Press.

Sedley, R. (2010). Six theses on digital customer engagement in a troubled economy. Retrieved 21 February 2010 from http://richard-sedley.iuplog.com/default.asp?item=298747.

Shen, A. X. L., Cheung, C. M. K., Lee, M. K. O., & Chen, H. (2009). How social influence affects we-intention to use instant messaging: The moderating effect of usage experience. *Information Systems Frontiers, 13*(2), 157-169.

Shen, A. X. L., Lee, M. K. O., Cheung, C. M. K., & Wang, W. (2010). We-intention to use instant messaging for collaboration : A social influence model. *11th Pacific-Asia Conference on Information Systems,* Auckland. 105-115.

Shukla, P. (2010). Effects of perceived sacrifice, quality, value, and satisfaction on behavioral intentions in the service environment. *Services Marketing Quarterly, 31*(4), 466-484.

Sprott, D., Czellar, S., & Spangenberg, E. (2009). The importance of a general measure of brand engagement on market behavior: Development and validation of a scale. *Journal of Marketing Research, 46*(1), 92-104.

Srinivasan, S. S., Anderson, R., & Ponnavolu, K. (2002). Customer loyalty in e-commerce: An exploration of its antecedents and consequences. *Journal of Retailing, 78*(1), 41-50.

Stevens, J. P. (2009). *Applied multivariate statistics for the social sciences*. New York: Routledge.

Stibe, A., Oinas-Kukkonen, H., & Lehto, T. (2013). Exploring social influence on customer engagement: A pilot study on the effects of social learning, social comparison, and normative influence. *System Sciences (HICSS), 2013 46th Hawaii International Conference On,* 2735-2744.

Sukumaran, A., Vezich, S., McHugh, M., & Nass, C. (2011). Normative influences on thoughtful online participation. *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems,* Vancouver, BC, Canada. 3401-3410.

Tabachnick, B., & Fidell, L. (2014). *Using multivariate statistics* (6th Ed.). Essex: Pearson Education Limited.

Thomson, M., MacInnis, D. J., & Park, C. W. (2005). The ties that bind: Measuring the strength of consumers emotional attachments to brands. *Journal of Consumer Psychology, 15*(1), 77-91.

Tranfield, D., Denyer, D., & Smart, P. (2003). Towards a methodology for developing evidence-informed management knowledge by means of systematic review. *British Journal of Management, 14*(3), 207-222.

Tsai, H., & Pai, P. (2014). Why do newcomers participate in virtual communities? an integration of self-determination and relationship management theories. *Decision Support Systems, 57*, 178-187.

Turner, M., Kitchenham, B., Brereton, P., Charters, S., & Budgen, D. (2010). Does the technology acceptance model predict actual use? A systematic literature review. *Information and Software Technology, 52*(5), 463.

van Doorn, J., Lemon, K. N., Mittal, V., Nass, S., Pick, D., Pirner, P., & Verhoef, P. C. (2010). Customer engagement behavior: Theoretical foundations and research directions. *Journal of Service Research, 13*, 253-266.

Vargo, S. L. (2009). Toward a transcending conceptualization of relationship: A service-dominant logic perspective. *Jnl of Bus & Indus Marketing, 24*(5), 373-379.

Vijayasarathy, L. (2004). Predicting consumer intentions to use on-line shopping: The case for an augmented technology acceptance model. *Information & Management, 41*(6), 747-762.

Vincent, N. A., & Webster, C. M. (2013). Exploring relationship marketing in membership associations. *European Journal of Marketing, 47*(10), 1622-1640.

Vivek, S. D., Morgan, R. M., & Beatty, S. E. (2012). Customer engagement: Exploring customer relationships beyond purchase. *The Journal of Marketing Theory and Practice, 20*(2), 122-146.

Voyles, B. (2000). Beyond loyalty: Meeting the challenge of customer engagement. *Economist Intelligence Unit*

Wang, H., Chung, J. E., Park, N., McLaughlin, M. L., & Fulk, J. (2010). Understanding online community participation: A technology acceptance perspective. *Communication Research, 39*(6), 781-801.

Wasko, M. M., & Faraj, S. (2005). Why should I share? examining social capital and knowledge contribution in electronic networks of practice. *MIS Quarterly, 29*(1), 35-57.

Weber, M. (1978). *Economy and society*. Berkeley: University of California Press.

Wellman, B., & Gulia, M. (1999). Net-surfers don't ride alone: Virtual communities as communities. In B. Wellman (Ed.), *Networks in the global village: Life in contemporary communities* (pp. 331-366). Boulder: CO7 Westview Press.

Wiertz, C., & Ruyter, K. (2007). Beyond the call of duty: Why customers contribute to firm-hosted commercial online communities. *Organisation Studies, 28*(3), 347-376.

Willis, G. B. (2005). *Cognitive interviewing: A tool for improving questionnaire design*. London: Sage.

Wirtz, J., Ambtman, A. D., Bloemer, J., Horvath, C., Ramaseshan, B., Klundert, J., Canly, Z., Kandampully, J. (2013). Managing brands and customer engagement in online brand communities. *Journal of Service Management, 24*, 223-244.

Woisetschlager, D. M., Hartleb, V., & Blut, M. (2008). How to make brand communities work: Antecedents and consequences of consumer participation. *Journal of Relationship Marketing, 7*(3), 237-256.

Yang, S., Hung, W., Sung, K., & Farn, C. (2006). Investigating initial trust toward e-tailers from the elaboration likelihood model perspective. *Psychology and Marketing, 23*(5), 429-445.

Zagila, M. E. (2013). Brand communities embedded in social networks. *Journal of Business Research, 66*, 216-223.

Zhao, K., Stylianou, A. C., & Zheng, Y. (2013). Predicting users' continuance intention in virtual communities: The dual intention-formation processes. *Decision Support Systems, 55*(4), 903.

Zhou, T. (2011). Understanding online community user participation: A social influence perspective. *Internet Research, 21*, 67-81.

Zhou, T. (2012). Understanding users initial trust in mobile banking: An elaboration likelihood perspective. *Computers in Human Behavior, 28*, 1518-1525.

Appendices

University of **Salford**
MANCHESTER

College of Arts & Social Sciences
Room 626 Maxwell Building
The Crescent
Salford, M5 4WT
Tel: 0161 295 5876

14 May 2014

Seyed Mojtaba Poor Rezaei
University of Salford

Dear Seyed

Re: Ethical Approval Application – CASS130017

I am pleased to inform you that based on the information provided, the Research Ethics Panel have no objections on ethical grounds to your project.

Yours sincerely

Deborah Woodman
On Behalf of CASS Research Ethics Panel

Introduction

I am a PhD student under the supervision of Dr. Aleksej Heinze at the Business School at University of Salford. My research aims to develop a reliable and valid scale for 'customer engagement' construct. This survey has been designed as a part of scale development process. It is important to consider your online brand community to complete the survey. The survey should take approximately 15 minutes to complete. Your responses will be kept confidential and they will be used only for research purposes. I would like to appreciate your help in advance. If you have any questions regarding the study, please do not hesitate to contact me via email (s.m.poorrezaei@edu.salford.ac.uk).

Instruction

The definitions of the five dimensions of 'customer engagement' are provided in the following page. You are given a number of items related to the dimensions. The task is to assign the given item to the dimension that best captures it. Dimensions are labelled 'A' to 'E' and please write F (Not applicable) if the item is not related to any of those dimensions. Your comments are very welcome and you can provide your suggestion in the 'comment section'.

Thanks you for your time,

Mojtaba Poorrezaei

Dimensions	Assigned (to)	Items	Comments
A. Socialising: *The degree to which a community member is interested in communicating and talking with other community members*		I like participating in the brand community because I can use my experience to help other people	
		I am motivated to participate in the brand community because I can help to improve the brand and its products	
B. Advocating: *The degree to which a community member wants to express the brand recommendation through the engagement in online brand communities*		I am motivated to participate in this brand community because I can receive help from other community members	
		I actively promote the brand through my participation and expression in the brand	
C. Co-developing: *The ardent affection a community member has for the brand*		I strongly recommend the brand to other member of the OBC	
		This brand is my preferred one that can be obviously seen in my participation in the OBC	
D. Sharing: *The degree to which a community member wants to help fellow community members by sharing knowledge, experience, or time*		To me, this is my first choice brand	
		I participate in OBC to encourage others to use this brand	
E. Learning: *The degree to which a community member wants to receive help from fellow community members who share their knowledge, experience, or time with them*		Brand X is the only choice for me to buy	
		I am really interested to discuss my views about the brand with others	
F. Not Applicable		Conversation with others in this brand community is enjoyable	

		Participation in this brand community helps me to discuss about different topics with others who have similar interests	
A. Socialising: *The degree to which a community member is interested in communicating and talking with other community members*		I show my interest to the brand through my participation in the brand community	
		It is important to me to have conversation with other members in the OBC who share the same opinion about the brand	
B. Advocating: *The degree to which a community member wants to express the brand recommendation through the engagement in online brand communities*		Having conversation with other members who share the same opinion in the OBC is interesting	
		When asked, I recommend the brand to other members of the OBC	
C. Co-developing: *The ardent affection a community member has for the brand*		I use the brand community to communicate with people who share the same interest as me	
D. Sharing: *The degree to which a community member wants to help fellow community members by sharing knowledge, experience, or time*		I have learnt how to communicate with other members of the community during my participation	
		Community members and I have a lot in common	
E. Learning: *The degree to which a community member wants to receive help from fellow community members who share their knowledge, experience, or time with them*		Communication with other members in the OBC makes me happy	
		I am proud to recommend the brand to other members of the OBC	
F. Not Applicable		Promotion of the brand in the OBC is important to me	

		I have a good time during my conversation with people similar to myself in OBC	
A. **Socialising:** *The degree to which a community member is interested in communicating and talking with other community members*		I like to share my experience and knowledge with others in this brand community to help them be more educated about the brand	
B. **Advocating:** *The degree to which a community member wants to express the brand recommendation through the engagement in online brand communities*		I feel good when I can help answer other community members' questions	
		I really like helping other community members with their questions	
C. **Co-developing:** *The ardent affection a community member has for the brand*		I like to know that my comments and suggestions can influence the brand and its products	
D. **Sharing:** *The degree to which a community member wants to help fellow community members by sharing knowledge, experience, or time*		I hope to improve the brand or product through my participation and expression in the brand community	
		Increasing the influence I have on the brand and its products makes me want to participate more in the brand community	
E. **Learning:** *The degree to which a community member wants to receive help from fellow community members who share their knowledge, experience, or time with them*		I am motivated in this brand community because community members can use their knowledge to help me	
		It is important to me to be able to use this community to find answers to my questions about the brand	
F. *Not Applicable*		I like participating in this brand community because it gives me an opportunity to receive help from other community members	

University of
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Customer Engagement

Welcome

Dear Participant,

Thank you in advance for your participation in this survey. I am a PhD student under the supervision of Dr. Heinze at The University of Salford. I am working with my supervisor in order to conduct a research project about customer relationship with an online brand community.

The survey is 20 questions long and will take approximately 10 minutes. You do not have to participate, or, even if you agree now, you can terminate your participation at any time. Your name will not be asked in the questionnaire and I will ensure that your participation remains confidential.

If you have any questions about the project or your participation, you can email (s.m.poorrezaei@edu.salford.ac.uk). Also, if you experience any problem as a result of your participation in the project, please feel free to contact me.

By completing and submitting the survey, as a participant, you are providing your informed consent.

Sincerely,

Mojtaba Poorrezaei
Room 926- 9th Floor- Maxwell Building-Salford Business School- University of Salford
Contact Number: +44 (0) 7760687334
Email: s.m.poorrezaei@edu.salford.ac.uk

Data Protection Statement

All data collected in this survey will be held anonymously and securely. All information provided will remain confidential and will only be reported as group data with no personally identifying information.

All data, including questionnaires will be kept in a secure location and only those directly involved with the research will have access to them. After the research is completed, the questionnaires will be destroyed.

Cookies, personal data stored by your web browser, are not used in this survey.

Please read carefully this short definition of Online Brand Community before answering the questions

Online Brand Community (OBC) can be simply defined as a place on the Internet where a company can be in contact with its current and future customers. The company can share information about its products and services as well as being informed from its customers about their opinion and views. **People who join Online Brand Community (OBC) have shared common interests in products and services of a specific company.** Different types of OBCs are discussed in the following:

Some companies build their OBC using social media websites such as Facebook. They create a page on Facebook and their customers can like it and join their OBC such as "Starbucks's page" on Facebook. Also, some companies have their own website which enables people to ask to join and by accepting their membership by OBC operator then they will become a member of OBC such as "Oracle Community". Currently, the most of companies have on-line brand community on both social networking sites and their own websites.

In addition, there is another type of OBC, which is built and managed by company's customers. Passionate customers create OBC and share information about the company's products and services with others such as "IKEAFANS community". **This type of OBC called customer-initiated while those OBC, which is built by company called company-initiated or marketer-initiated.**

*This survey will be asking about your membership in any types of OBC. If you are a member of any OBCs, please enter your worker ID below and click **continue** to answer the questions otherwise, please quit the survey*

1 Please enter your worker ID.

Customer Engagement Survey

Please select an on-line brand community (OBC) you are the most familiar and answer following questions.

The following questions are designed for classification purpose only. Please select the appropriate response.

2 What is your gender?

- ○ Male
- ○ Female

3 What is your age?

- ○ 18 - 24 years old
- ○ 25 - 34 years old
- ○ 35 - 44 years old
- ○ 45 - 54 years old
- ○ 55 - 64 years old
- ○ 65 or over

4 What is your highest achieved level of education?

- ○ no education
- ○ primary education
- ○ lower secondary education
- ○ intermediate secondary education
- ○ higher education

5   What is your total household's monthly gross income?

- ○ =<$1001 p/m
- ○ =$1001 - 1500 p/m
- ○ =$1501 - 2000 p/m
- ○ =$2001 - 2500 p/m
- ○ =>$2500 p/m

In the following questions, we are asking about your chosen online brand community. Please select the appropriate response.

6   According to the previous section regarding the definition of OBC, please select which option describes your OBC?

- ○ OBC has its own website
- ○ OBC is hosted by social networking website
- ○ Other

6.a   If you selected Other, please specify:

7   What is the name of OBC you belong to?

8   Please select the type of your OBC.

- ○ Customer-Initiated (The OBC is created and managed by company's customers)

○ Company-Initiated (The OBC is created and managed by the company)

9 How long have you been a member of your OBC?

○ Under 6 months
○ 6-12 months
○ 1-3 years
○ Over 3 years

10 Approximately how many members does your OBC have?

[   ]

11 How long do you spend on average when you visit OBC?

○ Below 15 minutes
○ Between 15minutes and 30 minutes
○ between 30 minutes and 1 hour
○ Between 1 hour and 90 minutes
○ Between 90 minutes and 2 hours
○ More than 2 hours

12 How often do you visit the OBC per week/month?

○ Several times a day
○ 6-7 times per week
○ 4-5 times per week
○ 2-3 times per week

- ⊙ Once per week
- ⊙ 2-3 times per month
- ⊙ Rarely

For the rest of the questions, there is no right and wrong answers. Please think carefully about your activities in chosen online brand community and select the most appropriate response.

13 Please indicate the extent to which you agree or disagree with the following statements.

	Please Select.						
	Strongly disagree = 1	Disagree = 2	Somewhat disagree = 3	Neutral = 4	Somewhat agree = 5	Agree = 6	Strongly agree = 7
I am often asked for advice about the brand.	⊙	⊙	⊙	⊙	⊙	⊙	⊙
Other people find my opinion about the brand valuable.	⊙	⊙	⊙	⊙	⊙	⊙	⊙
My friends come to me more often than me I go to them for advice about the brand.	⊙	⊙	⊙	⊙	⊙	⊙	⊙

| I feel I am generally regarded as a good source for advice about the brand. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

14 Please indicate the extent to which you agree or disagree with the following statements.

	Please Select.						
	Strongly disagree = 1	Disagree = 2	Somewhat disagree = 3	Neutral = 4	Somewhat agree = 5	Agree = 6	Strongly agree = 7
I often seek advice of others about the brand matters.	○	○	○	○	○	○	○
Other people usually give me good advice about the brand matters.	○	○	○	○	○	○	○

I feel more comfortable buying a product of the brand when I have gotten other people's opinions on it.	○	○	○	○	○	○	○
I often exchange information about the brand matters with friends.	○	○	○	○	○	○	○

15 Please select strongly agree for this question and then continue

○ Strongly Agree
○ Agree
○ Agree Somewhat
○ Neutral
○ Disagree Somewhat
○ Disagree
○ Strongly Disagree

16 Below is a series of statements concerning your activity in online brand community. Please indicate the extent to which you agree or disagree with the following statements.

Please don't select more than 1 answer(s) per row.

	Strongly disagree = 1	disagree = 2	Somewhat disagree = 3	Neutral = 4	Somewhat agree = 5	Agree = 6	Strongly agree = 7
I am motivated to participate in the brand community because I can help to improve the brand and its products.	☐	☐	☐	☐	☐	☐	☐
I like to know that my comments and suggestions can influence the brand and its products.	☐	☐	☐	☐	☐	☐	☐
Increasing the influence I have on the brand and its products makes me want to participate more in the brand community.	☐	☐	☐	☐	☐	☐	☐

I hope to improve the brand or product through my participation and expression in the brand community.	☐	☐	☐	☐	☐	☐	☐

17 Below is a series of statements concerning your activity in online brand community. Please indicate the extent to which you agree or disagree with the following statements.

Please don't select more than 1 answer(s) per row.

	Strongly disagree = 1	disagree = 2	Somewhat disagree = 3	Neutral = 4	Somewhat agree = 5	Agree = 6	Strongly agree = 7
I like participating in the brand community because I can use my experience to help other people.	☐	☐	☐	☐	☐	☐	☐

I like to share my experience and knowledge with others in this brand community to help them be more educated about the brand.	☐	☐	☐	☐	☐	☐	☐
I really like helping other community members with their questions.	☐	☐	☐	☐	☐	☐	☐
I feel good when I can help answer other community members' questions.	☐	☐	☐	☐	☐	☐	☐

18 Below is a series of statements concerning your activity in online brand community. Please indicate the extent to which you agree or disagree with the following statements.

Please don't select more than 1 answer(s) per row.

	Strongly disagree = 1	disagree = 2	Somewhat disagree = 3	Neutral = 4	Somewhat agree = 5	Agree = 6	Strongly agree = 7

I am motivated to participate in this brand community because I can receive help from other community members.	☐	☐	☐	☐	☐	☐	☐
I am motivated to participate in this brand community because community members can use their knowledge to help me.	☐	☐	☐	☐	☐	☐	☐
I like participating in this brand community because it gives me an opportunity to receive help from other community members.	☐	☐	☐	☐	☐	☐	☐

It is important to me to be able to use this community to find answers to my questions about the brand.	☐	☐	☐	☐	☐	☐	☐

19 Below is a series of statements concerning your activity in online brand community. Please indicate the extent to which you agree or disagree with the following statements.

Please don't select more than 1 answer(s) per row.

	Strongly disagree = 1	disagree = 2	Somewhat disagree = 3	Neutral = 4	Somewhat agree = 5	Agree = 6	Strongly agree = 7
I participate in OBC to encourage others to buy from this brand.	☐	☐	☐	☐	☐	☐	☐
I recommend the brand to other members of the OBC.	☐	☐	☐	☐	☐	☐	☐
I promote the brand through my participation in the brand.	☐	☐	☐	☐	☐	☐	☐

I am proud to recommend the brand to other members of the OBC.	☐	☐	☐	☐	☐	☐	☐
When asked, I recommend the brand to other members of the OBC.	☐	☐	☐	☐	☐	☐	☐
I show my interest to the brand through my participation in the brand community.	☐	☐	☐	☐	☐	☐	☐
This brand is my preferred one that can be obviously seen in my participation in the OBC.	☐	☐	☐	☐	☐	☐	☐

20 Below is a series of statements concerning your activity in online brand community. Please indicate the extent to which you agree or disagree with the following statements.

Please don't select more than 1 answer(s) per row.

	Strongly disagree = 1	disagree = 2	Somewhat disagree = 3	Neutral = 4	Somewhat agree = 5	Agree = 6	Strongly agree = 7

It is important for me to have conversation with other members in the OBC who share the same opinion about the brand.	☐	☐	☐	☐	☐	☐	☐
I have learnt how to communicate with other members of the OBC during my participation.	☐	☐	☐	☐	☐	☐	☐
I am motivated to participate in the online brand community to discuss about different topics with others who have similar interests.	☐	☐	☐	☐	☐	☐	☐
I have a good time during my conversation with people similar to myself in OBC.	☐	☐	☐	☐	☐	☐	☐
Communication with other members in the OBC makes me happy.	☐	☐	☐	☐	☐	☐	☐

I use the brand community to communicate with people who share the same interest as me	☐	☐	☐	☐	☐	☐	☐
Having conversation with other members who share the same opinion in the OBC is interesting.	☐	☐	☐	☐	☐	☐	☐
Conversation with others in this brand community is enjoyable.	☐	☐	☐	☐	☐	☐	☐
I am really interested to discuss my views about the brand with others.	☐	☐	☐	☐	☐	☐	☐

THANKS!

Many thanks for your participation.

Your Survey Code is

(Your Worker ID)+2015

if your worker ID is : ab123456 then the survey code would be: "ab1234562015"

University of
Salford
MANCHESTER

Customer Engagement Survey

Welcome

Dear Participant,

Thank you in advance for your participation in this survey. I am a PhD student under the supervision of Dr. Heinze at The University of Salford. I am working with my supervisor in order to conduct a research project about customer relationship with an online brand community.

The survey is 25 questions long and will take approximately 10-15 minutes. You do not have to participate, or, even if you agree now, you can terminate your participation at any time. Your name will not be asked in the questionnaire and I will ensure that your participation remains confidential.

If you have any questions about the project or your participation, you can email (s.m.poorrezaei@edu.salford.ac.uk). Also, if you experience any problem as a result of your participation in the project, please feel free to contact me.

By completing and submitting the survey, as a participant, you are providing your informed consent.

Sincerely,

Mojtaba Poorrezaei
Room 926- 9th Floor- Maxwell Building-Salford Business School- University of Salford
Contact Number: +44 (0) 7760687334
Email: s.m.poorrezaei@edu.salford.ac.uk

Data Protection Statement

All data collected in this survey will be held anonymously and securely. All information provided will remain confidential and will only be reported as group data with no personally identifying information.

All data, including questionnaires will be kept in a secure location and only those directly involved with the research will have access to them. After the research is completed, the questionnaires will be destroyed.

Cookies, personal data stored by your web browser, are not used in this survey.

Please read carefully this short definition of Online Brand Community before answering the questions

Online Brand Community (OBC) can be simply defined as a place on the Internet where a company can be in contact with its current and future customers. The company can share information about its products and services as well as being informed from its customers about their opinion and views. **People who join Online Brand Community (OBC) have shared common interests in products and services of a specific company**. Different types of OBCs are discussed in the following:

Some companies build their OBC using social media websites such as Facebook. They create a page on Facebook and their customers can like it and join their OBC such as "Starbucks's page" on Facebook. Also, some companies have their own website which enables people to ask to join and by accepting their membership by OBC operator then they will become a member of OBC such as "Oracle Community". Currently, the most of companies have on-line brand community on both social networking sites and their own websites.

In addition, there is another type of OBC, which is built and managed by company's customers. Passionate customers create OBC and share information about the company's products and services with others such as "IKEAFANS community". **This type of OBC called customer-initiated while those OBC, which is built by company called company-initiated or marketer-initiated.**

This survey will be asking about your membership in any types of OBC. If you are a member of any OBCs, please enter your worker ID below and click **continue** *to answer the questions otherwise, please quit the survey*

1 Please enter your worker ID.

Please select an on-line brand community (OBC) you are the most familiar and answer following questions.

A: Members Classification

2 What is your gender?

- ○ Male
- ○ Female

3 What is your age?

- ○ 18 - 24 years old
- ○ 25 - 34 years old
- ○ 35 - 44 years old
- ○ 45 - 54 years old
- ○ 55 - 64 years old
- ○ 65 or over

4 What is your highest achieved level of education?

- ○ no education
- ○ primary education
- ○ lower secondary education
- ○ intermediate secondary education
- ○ higher education

5 What is your total household's monthly gross income?

- ○ =<$1001 p/m
- ○ =$1001 - 1500 p/m

○ =$1501 - 2000 p/m
○ =$2001 - 2500 p/m
○ =>$2500 p/m

6 According to the previous section regarding the definition of OBC, please select which option describes your OBC?

○ OBC has its own website
○ OBC is hosted by social networking website
○ Other

6.a If you selected Other, please specify:

[   ]

7 What is the name of OBC you belong to?

[   ]

8 Please select the type of your OBC.

○ Customer-Initiated (The OBC is created and managed by company's customers)
○ Company-Initiated (The OBC is created and managed by the company)

9 How long have you been a member of your OBC?

○ Under 6 months
○ 6-12 months
○ 1-3 years
○ Over 3 years

10 Approximately how many members does your OBC have?

[   ]

11 How long do you spend on average when you visit OBC?

- ○ Below 15 minutes
- ○ Between 15minutes and 30 minutes
- ○ between 30 minutes and 1 hour
- ○ Between 1 hour and 90 minutes
- ○ Between 90 minutes and 2 hours
- ○ More than 2 hours

12 How often do you visit the OBC per week/month?

- ○ Several times a day
- ○ 6-7 times per week
- ○ 4-5 times per week
- ○ 2-3 times per week
- ○ Once per week
- ○ 2-3 times per month
- ○ Rarely

B: Information Quality

13 Below is a series of statements concerning Information quality. Please indicate the extent to which you agree or disagree with the following statements.

Please don't select more than 1 answer(s) per row.

	Strongly disagree = 1	Disagree = 2	Somewhat disagree = 3	Neutral = 4	Somewhat agree = 5	Agree = 6	Strongly agree = 7

The information provided in the OBC is accurate.	☐	☐	☐	☐	☐	☐	☐
The OBC provides me with a complete set of information.	☐	☐	☐	☐	☐	☐	☐
The information from the OBC is always up to date.	☐	☐	☐	☐	☐	☐	☐
The OBC provides me with all the information I need.	☐	☐	☐	☐	☐	☐	☐

C: Brand Knowledge

14 Below is a series of statements concerning your knowledge about brand. Please indicate the extent to which you agree or disagree with the following statements.

Please don't select more than 1 answer(s) per row.

	Strongly disagree = 1	Disagree = 2	Somewhat disagree = 3	Neutral = 4	Somewhat agree = 5	Agree = 6	Strongly agree = 7
When compared to other members of community, I know a lot about the brand.	☐	☐	☐	☐	☐	☐	☐

My friends consider me an expert regarding the brand.	☐	☐	☐	☐	☐	☐	☐
I consider myself very experienced with the brand.	☐	☐	☐	☐	☐	☐	☐

15 Please select strongly disagree for this question and then continue

☐ Strongly Agree
☐ Agree
☐ Agree Somewhat
☐ Neutral
☐ Disagree Somewhat
☐ Disagree
☐ Strongly Disagree

Section D: Group Norm

16 Please rate your response to the statement below by ticking between 1 for "completely different" to 7 for "completely Similar".

Please don't select more than 1 answer(s) per row.

	Completely different = 1	Moderately different = 2	Slightly different = 3	Undecided = 4	Slightly different = 5	Moderately different = 6	Completely different = 7

To what extent do your values and goals overlap with the community's values and goals?	☐	☐	☐	☐	☐	☐	☐

17 Using the OBC for collaboration can be considered as a goal for community members. Please estimate the strength to which each of the people listed below holds the goal.

Please don't select more than 1 answer(s) per row.

	Weak = 1	Moderately weak = 2	Slightly weak = 3	Undecided = 4	Slightly strong = 5	Moderately strong = 6	Strong = 7
Strength of the goal by yourself.	☐	☐	☐	☐	☐	☐	☐
Average of the strength of the goal by other members.	☐	☐	☐	☐	☐	☐	☐

E: Identification with Brand and Community

18 Please rate your response to the statement below by ticking between 1 for "completely different" to 7 for "completely Similar".

Please don't select more than 1 answer(s) per row.

	Completely different = 1	Moderately different = 2	Slightly different = 3	Undecided = 4	Slightly similar = 5	Moderately similar= 6	Completely similar = 7

To what extent does your perception of who you are (i.e., your personal identity) overlap with your perception of what brand represents (i.e., brand identity)?	☐	☐	☐	☐	☐	☐	☐

19 Please indicate the extent to which you agree or disagree with the following statements.

Please don't select more than 1 answer(s) per row.

	Strongly disagree = 1	Disagree = 2	Somewhat disagree = 3	Neutral = 4	Somewhat agree = 5	Agree = 6	Strongly agree = 7
When someone praises the brand, it feels like a personal compliment.	☐	☐	☐	☐	☐	☐	☐
I believe others respect me for my association with the brand.	☐	☐	☐	☐	☐	☐	☐

I consider myself a valuable partner of the brand.	☐	☐	☐	☐	☐	☐	☐
I feel like I am personally connected to the brand.	☐	☐	☐	☐	☐	☐	☐

20 Please select strongly agree for this question and then continue

○ Strongly Agree

○ Agree

○ Agree Somewhat

○ Neutral

○ Disagree Somewhat

○ Disagree

○ Strongly Disagree

21 Below is a series of statements concerning community identification. Please indicate the extent to which you agree or disagree with the following statements.

Please don't select more than 1 answer(s) per row.

	Strongly disagree = 1	Disagree = 2	Somewhat disagree = 3	Neutral = 4	Somewhat agree = 5	Agree = 6	Strongly agree = 7
I am very attached to the brand community.	☐	☐	☐	☐	☐	☐	☐
I see myself as a part of the brand community.	☐	☐	☐	☐	☐	☐	☐

I am an important member of the brand community.	☐	☐	☐	☐	☐	☐	☐
The friendship that I have with other brand community members mean a lot to me.	☐	☐	☐	☐	☐	☐	☐
Other brand community members and I share the same objectives.	☐	☐	☐	☐	☐	☐	☐

F: Customer Engagement

22 Below is a series of statements concerning your activity in chosen online brand community. Please indicate the extent to which you agree or disagree with the following statements.

Please don't select more than 1 answer(s) per row.

	Strongly disagree = 1	Disagree = 2	Somewhat disagree = 3	Neutral = 4	Somewhat agree = 5	Agree = 6	Strongly agree = 7
I like participating in the brand community because I can use my experience to help other people	☐	☐	☐	☐	☐	☐	☐

I like to share my experience and knowledge with others in this brand community to help them be more educated about the brand	☐	☐	☐	☐	☐	☐	☐
I really like helping other community members with their questions	☐	☐	☐	☐	☐	☐	☐
I feel good when I can help answer other community members' questions	☐	☐	☐	☐	☐	☐	☐
I am motivated to participate in the brand community because I can help to improve the brand and its products	☐	☐	☐	☐	☐	☐	☐

I like to know that my comments and suggestions can influence the brand and its products	☐	☐	☐	☐	☐	☐	☐
Increasing the influence I have on the brand and its products makes me want to participate more in the brand community	☐	☐	☐	☐	☐	☐	☐
I hope to improve the brand or product through my participation and expression in the brand community	☐	☐	☐	☐	☐	☐	☐
I am motivated to participate in this brand community because I can receive help from other community members	☐	☐	☐	☐	☐	☐	☐

I am motivated to participate in this brand community because community members can use their knowledge to help me	☐	☐	☐	☐	☐	☐	☐
I like participating in this brand community because it gives me an opportunity to receive help from other community members	☐	☐	☐	☐	☐	☐	☐
It is important to me to be able to use this community to find answers to my questions about the brand	☐	☐	☐	☐	☐	☐	☐
I promote the brand through my participation and expression in the OBC	☐	☐	☐	☐	☐	☐	☐

When asked, I recommend the brand to other members of the OBC	☐	☐	☐	☐	☐	☐	☐
This is my preferred brand that can be seen in my participation in the OBC	☐	☐	☐	☐	☐	☐	☐
I use the brand community to communicate with people who share the same interest as me	☐	☐	☐	☐	☐	☐	☐
It is important for me to have conversation with other members in the OBC who share the same opinion about the brand	☐	☐	☐	☐	☐	☐	☐
Having conversation with other members who share the same opinion in the OBC is interesting	☐	☐	☐	☐	☐	☐	☐

G: Brand Loyalty

23 Below is a series of statements concerning brand loyalty. Please indicate the extent to which you agree or disagree with the following statements.

Please don't select more than 1 answer(s) per row.

	Strongly disagree = 1	Disagree = 2	Somewhat disagree = 3	Neutral = 4	Somewhat agree = 5	Agree = 6	Strongly agree = 7
I encourage relatives and friends to buy the products and services of the brand.	☐	☐	☐	☐	☐	☐	☐
I consider the brand as my number one choice.	☐	☐	☐	☐	☐	☐	☐
It is very important for me to buy the products and services of this particular brand rather than other brands.	☐	☐	☐	☐	☐	☐	☐
I intend to buy the other products of this brand in future.	☐	☐	☐	☐	☐	☐	☐

H: Community Satisfaction

24 Below is a series of statements concerning OBC satisfaction. Please indicate the extent to which you agree or disagree with the following statements.

Please don't select more than 1 answer(s) per row.

	Strongly disagree = 1	Disagree = 2	Somewhat disagree = 3	Neutral = 4	Somewhat agree = 5	Agree = 6	Strongly agree = 7
Overall, the content of the OBC matches exactly with my interests.	☐	☐	☐	☐	☐	☐	☐
I am satisfied with my decision to become a member of the OBC.	☐	☐	☐	☐	☐	☐	☐
In general, the benefits of using the OBC meet my expectations.	☐	☐	☐	☐	☐	☐	☐

25 This questionnaire has been completed by me honestly and accurately

○ Strongly Agree
○ Agree
○ Agree Somewhat
○ Neutral
○ Disagree Somewhat
○ Disagree
○ Strongly Disagree

THANKS!

Many thanks for your participation.

Your Survey Code is

(Your Worker ID)+2015

if your worker ID is : ab123456 then the survey code would be: "ab1234562015"