

# The Effectiveness of Customer Engagement in Co-creation: The Moderating Role of Customer Personality Traits

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## Abstract

As marketing strategies and customers' needs change, organisations should listen to the customer's voice as the customer can play a huge role in the firm's innovation activities to maintain business growth and enhance competitive advantage. Recent developments in marketing have shed light on the blurred outlines between organisations and customers. Contemporary thinking in the field has found that the co-creation process has moved from the firm viewpoint to the customer viewpoint and it has also been observed that customers have become more active and now play a central role when collaborating with the firm in co-creation procedures (Lusch and Vargo, 2014; Merz et al., 2018; Vargo and Lusch, 2016). Yet, scholars and researchers lack understanding of how customer engagement contributes to the co-creation process. Thus, drawing on social exchange theory and service-dominant logic, a conceptual framework for this study is built and seeks to explain how engaging customers in the co-creation process can affect new product success. The inquiry extends to examine the impact of customer personality traits (personalisation, shopping enjoyment, social affiliation, social recognition and preferential treatment) as moderating factors that influence the relationship between customer engagement and co-creation.

This research adopts a quantitative strategy to understand the relationships between the research concepts. A printed questionnaire was used to collect data from customers in jewellery stores in London. The questionnaires were distributed among 310 customers who were collaborating with the jewellers in a co-creation process. Following data collection, Structural Equation Modelling (SEM) was employed in the analysis. The key findings resulting from this research were that the effect of customer engagement on customer co-creation is positive and statistically significant so firms can benefit from their customers by engaging them in the value

creation process by obtaining information and feedback ; firms can also benefit from customer skills and ideas. In addition, co-creation has a positive impact on new product success; the important role that customers play and their participation in the new product development process help companies to satisfy their needs and improve performance in new product development. Furthermore, the moderators which moderate the relationship between customer engagement and customer co-creation consist of five customer personality traits. All of these constructs were supported statistically and theoretically. Contrary to the hypothesis, two of them were not confirmed (social affiliation and personalisation) which means social affiliation and personalisation negatively moderated the effect of customer engagement on customer co-creation.

The research makes a contribution both on a theoretical and a practical level. On a theoretical level, the conceptual framework developed in this study contributes to more theoretical development in the growing field of customer engagement in co-creation. The researcher connects customer engagement (CE) with customer co-creation (CCO) and offers a coherent framework that determines the moderators that affect this relationship and the consequence of this connection on new product success from a customer perspective. In other words, it provides a better understanding of the relationship between CE and co-creation which leads to new product success (NPS). On a practical level, this study highlights the customer personality traits that marketers should understand in order to encourage the customer to integrate with the new product development process and it confirms the outcome of their engagement in the co-creation process in producing a successful new product. Moreover, it illustrates the opportunity that has been given to customers to engage and interact with organisations, it allows the marketers to look at customers as a resource for co-creation to help the company with future decision-making and decrease new product failure so that it can benefit from the interaction

between them to satisfy customers, meet their needs, generate ideas and reach its business goals by engaging them in new product procedures at the same time.

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# 1 INTRODUCTION AND OVERVIEW OF THE STUDY

## 1.1 Introduction

## 1.2 Research background

There is general unanimity that marketing has changed the way firms view customers. With the changes in marketing concepts, the customer and corporate relationships are evolving. In the 1990s, organisations paid attention to customer transactions, while in the 2000s, firms turned their attention to building a positive long-term relationship with customers and assuring satisfaction and loyalty by providing better products and services (Pansari and Kumar, 2017). In recent years, the administrative orientation in integrating customers into the business process and engaging them in new product development stages has become essential (Chang and Taylor, 2016; Cui and Wu, 2017; Fernandes and Remelhe, 2016).

"In the current decade, the major movement in customer management has been on customer engagement" (Lemon and Verhoef, 2016, p. 73). The concept of customer engagement (CE) has been the subject of great academic interest in recent years (Harmeling et al., 2017; Wirtz et al., 2019). CE is "a psychological state that occurs by virtue of interactive customer experiences with a focal object (e.g., a brand) in service relationships" (Brodie et al., 2011, p. 260). CE is of strategical importance for improving a firm's performance (Kumar and Pansari, 2016). It has a positive effect on trust (Hollebeek, 2011), loyalty, satisfaction, commitment and is more likely to produce a better product and service (Brodie et al., 2013; Chathoth et al., 2016; Chen and Wang, 2016; Cossío-Silva et al., 2016; Pansari and Kumar, 2017; Prebensen and Xie, 2017; Ranjan and Read, 2016) and boost the co-creation experience (Prahalad and Ramaswamy, 2004). Academic research asserts that CE has the chance to improve the

relationship with customers beyond financial transactions (Venkatesan, 2017) and obtain competitive advantage (Kumar and Pansari, 2016).

Contemporary thinking in the marketing field has found that the co-creation process has been moved from a firm viewpoint to a customer viewpoint; customers play an active, central role and collaborate with the firm in co-creation procedures (Lusch and Vargo, 2014; Merz et al., 2018; Vargo and Lusch, 2016). The concept of 'co-creation' originally derives from the service-dominant logic proposed by Vargo and Lusch (2008). Even though previous marketing literature has focused on the client as a passive buyer for what firms produce (good-dominant logic), customers are not only receivers but they are value creators (service-dominant logic) (Xie et al., 2008). The main concept of service-dominant logic is that the customer is always a co-creator of value (Vargo and Lusch, 2008). Along the same lines, Taghizadeh et al. (2016, p. 25) stated that “value co-creation applies the initiatives of firms’ innovation with the consumers, rather than for the consumers”. Engaging customers in the co-creation process paves the way for the customer as a knowledge resource to help the firm in producing a successful new product and service (Storey and Larbig, 2018). It may also increase the modernity and benefits of products (Hoyer et al., 2010). The greater the reliance on clients in the co-creation process, the more the firm can get creative ideas (Nishikawa et al., 2013), improve product diversity (Al-Zu’bi and Tsinopoulos, 2012), increase customer satisfaction and loyalty (Chathoth et al., 2016; Chen and Wang, 2016; Mathis et al., 2016; Prebensen and Xie, 2017) and improve the quality of a product and service (Chang and Taylor, 2016). Firms can gain the maximum benefits from their customers through satisfying their needs by engaging them in the co-creation process so that individuals are beneficial to the business in return; in the other words, this involves looking to the customer as a productive resource. "Putting the customer first" are the words used by Drucker (1954) to show that the basis of a company's

goal should be creating and maintaining customers, on the basis that clients identify what the business is. There is no doubt about the importance of customers; however, it is not enough to serve the customer and satisfy their desires, but innovation must occur by engaging individuals' minds and their imagination. This means that interacting with customers is essential (Berthon et al., 2004).

### 1.3 Research gaps

Many organisations aim to take advantage of their customers' skills, knowledge and information by collaborating with them in creating new products. Customers, as the existing and main buyers, are the critical external knowledge resources and are required for more engagement in new product development process (Menguc et al., 2014). By engaging them in these procedures, customers' desires and needs can be easily captured and this facilitates the production of efficient client-oriented products (Wang et al., 2016). However, scholars in different domains have stated that the customers' and sellers' roles are becoming significantly blurred; users participate in co-creation and product development (Hoyer et al., 2010; Nambisan and Baron, 2009) recommending the firm's product/service to other clients (Libai et al., 2010). Thus, there is a need to investigate how customer engagement contributes to the co-creation process (Brodie and Hollebeek, 2011). Jaakkola and Alexander's (2014) paper represented the first attempt to conceptualise the relationship between customer engagement and co-creation. Scholars have illustrated the need for more research to fully understand customer interaction with brands and to analyse the nature of customer/firm engagement (Brodie et al., 2011). In addition, previous research has made an important contribution to understand the role that customer participation plays in making an innovation process successful which leads to new service success; however, they also highlighted the need for

more research into how customer engagement can improve innovation process performance (Storey and Larbig, 2018). Díaz-Méndez and Saren (2019) stated that more research into the co-creation process from the customer perspective is required to understand more fully the aspects of customers' characteristics and experiences. Moreover, A recent study has merged conflict into customer participation literature and based on a sample of 181 high-tech companies in China, found that engaging customers as idea and information providers relieves the conflict between the customer and firm; customer participation as a co-developer increases it and tested market newness and technology newness as moderators effect. They suggested further research from different industries and countries to further explore the role of CE in the NPD process (Wang et al., 2020).

The co-creation process is susceptible to consumers' self-selection hence consumer engagement in the co-creation process could vary from the customer targeted by the firm. Thus, understanding customer personality traits is crucial to prevent wrong decisions and develop products which are suitable for the actual buyer. In addition, prior research has investigated how companies need to attract their customers to create value and produce shared value (Ramaswamy and Ozcan, 2016) which reveals that companies need to understand their customers' personality traits in order to provide them with the right benefits to participate. Merz et al. (2018) and Yi and Gong (2013) have suggested that researchers need to test how customer personality as a moderator of customer co-creation must be taken into account. To the researcher's knowledge, this study is the first attempt to test the customer personality traits as moderators between customer engagement and co-creation. Moreover, Tu et al. (2018) suggested further research which could assist the manager to better divide customers according to different behaviours and personalities to determine the co-creation that is the most suitable for the customer.

With great interest among researchers in customer participation in new product development (i.e. idea generation, feedback), there are few studies about its effectiveness in terms of new product performance (Kristensson et al., 2004). collaborating with clients in new product processes would be beneficial for an organisation's success (Alam, 2002; Sawhney et al., 2005). Even though scholars have differed about the impact of engaging customers in the co-creation process for a new product, some researchers claim that obtaining new ideas is a result of customer involvement in the co-creation process (Jussila et al., 2014; Nishikawa et al., 2013; Pansari and Kumar, 2016) and enhancing new product performance (Chang and Taylor, 2016; Feng et al., 2014). Other studies state that customer participation has no impact or even that the impact is negative (Carbonell et al., 2009; Menguc et al., 2014). Consequently, to better understand whether the firm can make a successful new product by engagement with customers in the co-creation process, there is a need to investigate the effect of engaging customers in new product development processes for new product outcomes (Cui and Wu, 2017; Gemser and Perks, 2015). Moreover, Cooper (2019) stated that nowadays developers faced many obstacles because the world is progressing rapidly, in a less expected way, and more confusingly than it was when those early papers were written and there have been many new techniques and practices added to the new product development process (NPD) since then so he suggested further research on the NPD process. The drivers of new-product success must continue, merely because product innovation is so essential to successful business.

In view of this literature gap, this research aims to investigate how engaging customers in the co-creation process can affect new product success and how this relationship can be affected by customer personality traits including shopping enjoyment, social recognition, social affiliation and preferential treatment, and personalisation from the customer perspective. This

study will attempt to enrich the literature by exploring how engaging customers might change the way that a firm produces a successful product when it comes to ways of sharing knowledge and participating in producing creative ideas with the customer. It examines the moderating role of customer personality traits on the level of engaging customers in the co-creation process that might lead to the increased success of a new product.

## **Research context**

Creative industries are experiencing continuous and growing growth and playing a crucial role in shaping the future of economic development. Creative industries have been described by The UK Government's Department for Culture, Media & Sport (DCMS) as "those industries which have their origin in individual creativity, skill and talent and which have a potential for wealth and job creation through the generation and exploitation of economic property" (DCMS, 2001, p.5). They include advertising, architecture, art and antiques, crafts, design, designer fashion, film and video, interactive leisure software, music, the performing arts, publishing, software and computer services, television and radio. Creative industries are the most thriving part of the UK economy. According to the newest UK government figures which were released in February 2020, creative industries made a record contribution of £111.7 billion to the UK economy in 2018 which equals £306 million each day. This is up 7.4% from 2017 which shows that growth in the industry is more than five times greater than growth in the whole UK economy, which grew by 14%. Since exchange ideas, design competitions and other shapes of democratised innovation methods are advanced in creative industries, this research was conducted in the creative industries context, specifically the design of jewellery.

**Table 1-1 The summary of research gaps**

| Research Gap                                                                                                                                             | Reference                                                                                               |
|----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| There is a general lack of understanding about engaging customers in the co-creation process.                                                            | (Díaz-Méndez and Saren, 2019; Jaakkola and Alexander, 2014; Storey and Larbig, 2018; Wang et al., 2020) |
| There is an absence of examination of customer personality traits as a moderator for engaging customers in co-creation which must be taken into account. | (Merz et al., 2018; Tu et al., 2018; Yi and Gong, 2013)                                                 |
| The need to investigate the effect of engaging customers in new product development processes for new product outcome is crucial                         | (Cooper, 2019; Cui and Wu, 2017; Gemser and Perks, 2015)                                                |

#### **1.4 The research questions for this study are:**

Given the gaps in the literature, the main research questions for this research are as follow:

**Q1:** How can engaging customers change co-creation?

**Q2:** How can customers' personality traits affect the relationship between customer engagement and customer co-creation?

**Q3:** How can new product success be influenced by engaging customers in the co-creation process?

## 1.5 Research objectives

In responding to the research questions on the relationship between engagement and co-creation and the moderators of customers' personality traits which affect the relationship that might lead to new product success, the following research objectives are proposed:

1. To investigate how engaging customers can change co-creation
2. To investigate how this relationship can be affected by customer personality traits including personalisation, shopping enjoyment, social affiliation, social recognition and preferential treatment
3. To investigate how engaging customers in the co-creation process can affect new product success

## 1.6 The study contributions

### 1.6.1 Academic contribution

This research is intended to assist in clarifying the active and central role of customers in the co-creation process. Hence, the focus of this study is to find out how engaging customers in new product development processes could lead to improved firm performance. This study uncovers the moderating effect of customer personality traits on the relationship between CE and CCO. It confirms that research examining the relationships between CE and the new product development process should explicate the moderating effects of customer personality traits, which clarify the type of customers who tend to engage in the co-creation process. A relevant outcome of this research relates to the impact of customer personality traits on customer engagement and customer co-creation. The results confirm that customer personality traits moderate the relationship between CE and CCO. The outcomes suggest that customers with certain personality traits are more likely to engage in the co-creation process. The finding

shows that the relationship between customer engagement and co-creation is stronger for customers who experience high levels of shopping enjoyment, social recognition and preferential treatment. Meanwhile, the relationship between CE and CCO is weaker for customers who experience high need for social affiliation and personalisation. Such results enrich the understanding of customer engagement and co-creation phenomena and demonstrate that particular traits of customers are more likely to lead to them engaging in the process of co-creation than others. This not only results in interesting practical contributions (see 1.6.2), but also offers a rich theoretical framework for customer engagement and customer co-creation; it is not only a way for the customer to receive a better product (Chang and Taylor, 2016) or a way for them to show their feelings through engagement towards a brand (Marbach et al., 2016) but also a way to express their personality traits and, based on their traits, to collaborate with the firm to produce a successful new product. Furthermore, testing customer personality traits ensures that researchers realise how customers represent a powerful resource when engaging them in a new product and service development process. Hence, this study helps to fill the gaps in the literature by exploring how engaging customers might change the way that firms can produce a successful product when it comes to ways of sharing knowledge and participating in producing creative ideas across the organisation and examining the moderating role of customer personality on engaging customers in the co-creation process. Moreover, the research will enhance theoretical understanding of the way customers communicate in marketing campaigns to advance further knowledge.

The other important aspect of this study is to explain how using customers as a resource in co-creation processes can lead to the successful production of a new product. Although many studies have been conducted on the consequences of customer engagement on the co-creation process, little has been conducted on understanding whether the outcome of this process results

in new product success. The findings of this study have offered substantial evidence to advance our understanding of producing a successful new product by engaging customers in a co-creation process. The findings support that customers are capable of creating value for a firm to produce a successful new product. Hence this study theoretically enriches the existing literature and helps to advance the knowledge in the area of customer engagement and co-creation processes for new product success.

### **1.6.2 Managerial contribution**

The framework in this study illustrates the opportunity that has been given to customers to engage and interact with organisations, as the interaction between customers and firms allows the firms to view the customer as a resource for co-creation to help the company with future decision-making and decrease new product failure so that firms can benefit from their customers to satisfy them, meet their needs, and reach their business goal by engaging them in product innovation procedures at the same time. In addition, Starr and MacMillan (1990) emphasise how using social exchange relationships provides crucial resources for the organisation. Moreover, Gruner and Homburg (2000) stated that communication and interactions with clients are one of the causes of product success. This study will develop ideas on customers' relationships with new products and enhance the communication experience. The rapid developments in marketing strategy will force companies to move the co-creation process from a firm viewpoint to a customer viewpoint by collaborating with them in new product development processes. Furthermore, it provides valuable knowledge on aspects that might affect or contribute towards engaging individuals with the firm successfully and the benefit of customer engagement for the organisation in terms of producing new products successfully. In addition, more considerations arise in relation to customer personality traits.

The study observed that some customers are substantially more interested in co-creation based on their personality traits, hence they are easier for the firm to attract. Firms need to focus on such profiles which could also generate and add additional value: customers with quality awareness can help in developing a product which is high quality. Shopping lovers could engage not only in the NPD stages but could also boost the marketing for the company's activities through word-of-mouth, and attract more individuals who have the same traits.

## 1.7 Thesis structure

This thesis consists of six chapters, organised as follow:

### **Chapter One: Introduction:**

This chapter contains the introduction to the research, presents the research questions, and the aim and objectives of the research. It also highlights the potential study contribution based on the determination of gaps in the literature review. At the end of this chapter, the thesis structure is provided.

### **Chapter Two: Literature Review**

In this chapter, the first section includes a literature review of the current use of engagement: definitions, dimensions, the importance of offline-online customer engagement, and discusses many streams that arise from the existing literature on customer engagement. The second section of this chapter reviews the literature on customer co-creation and the customer roles in co-creation processes, such as customers as a resource and customers as co-producers and the benefits derived from customer co-creation. Section 3 provides the theoretical foundation for how new products can be produced successfully.

### **Chapter Three: Conceptual Framework**

This chapter represents the research model. Following the research aims, the framework shows the relationship between customer engagement and co-creation which is affected by five customer personality traits as moderators which lead to new product success. This structure allows me to explain the impact of customer personality traits as important variables on the relationship between CE and co-creation. At the beginning of this chapter, the constructs will be defined and then the hypothesised relationships between them will be explained.

### **Chapter Four: Research Methodology**

This chapter aims to explain the methodology used in this research as a quantitative study. Firstly, it explains the inquiry paradigm that has been adopted in the research which includes the philosophical and methodological considerations with justification of the approach selected in detail. First, the philosophical considerations are identified in terms of the ontological and epistemological paradigm. After that, methodological considerations are determined in accordance with approach and strategy. In addition, the questionnaire design with the scale instrument is discussed. Then, the sample strategy, data collection methods and data analysis method are explained, followed by the research reliability, validity and ethical issues.

### **Chapter Five: Quantitative Data Analysis**

Statistical analysis for the research data and the findings for this analysis are presented in this chapter. The chapter starts with descriptive statistics for the sample, then, data examination is undertaken, regarding missing data, outliers and normality followed by testing the hypothesised model using a Structural Equation Modelling analysis. The results are discussed in this chapter.

## **Chapter Six: Discussion and Conclusion**

This chapter provides the main conclusions of the research. It begins by discussing the achievement of the research aims and research questions briefly and then addresses the objectives of the study and the empirical results of statistical analysis, comprising the empirical findings of the quantitative study and previous literature with the aim of answering the research questions. Then the research conclusion is presented. Then, the research implications and contributions from theoretical and managerial viewpoints are explained. Finally, the research limitations and future research are provided.

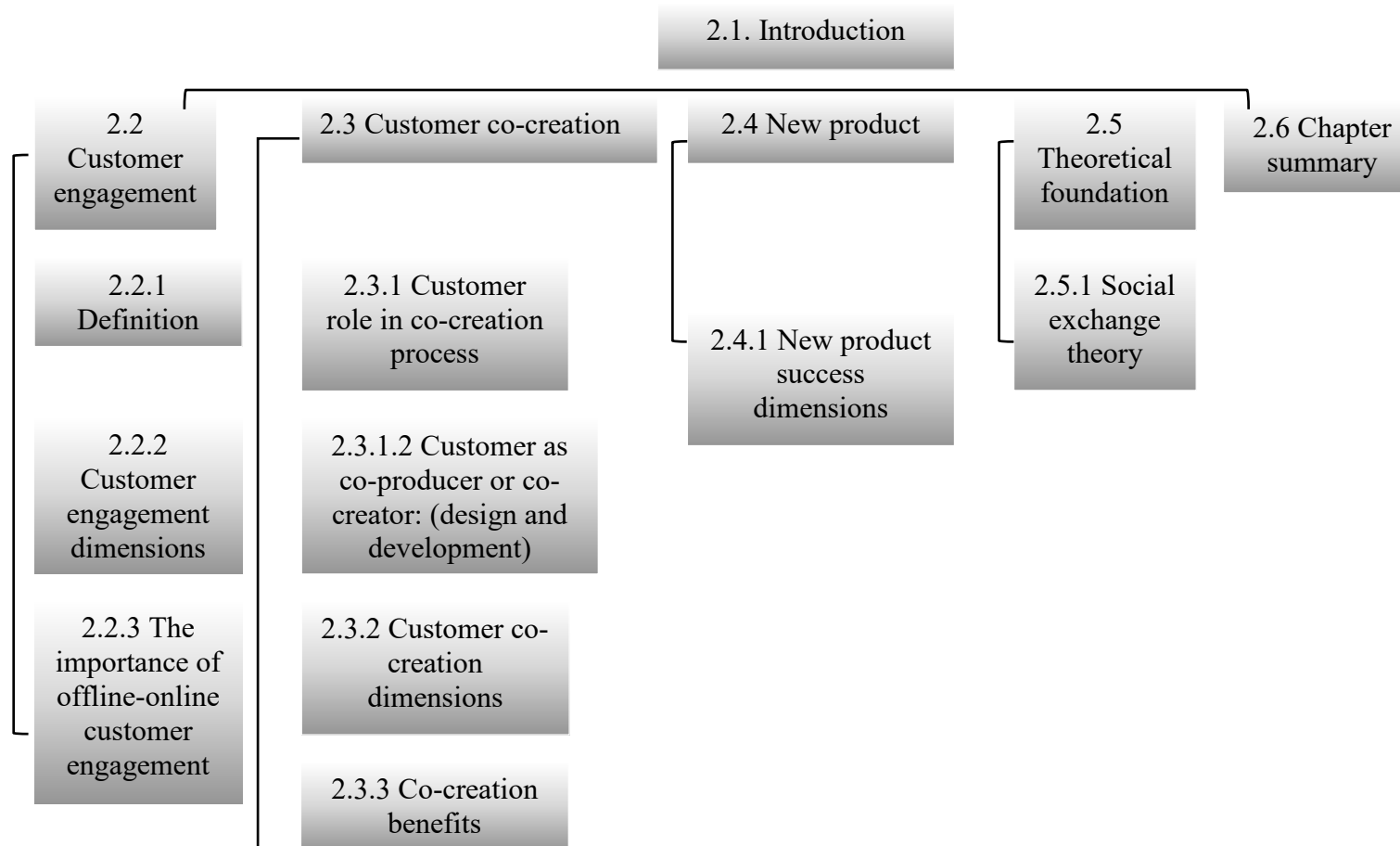
## 2 LITERATURE REVIEW

### 2.1 Introduction

In this chapter, Section 1 proceeds with a literature review of the current use of engagement: definitions, dimensions, and the importance of offline-online customer engagement. The various definitions and dimensions of engagement from different fields are summarised in Table 2.1 and discuss many streams that have been raised from the existing literature on customer engagement. Section 2 reviews the literature on customer co-creation, co-creation dimensions and the customer roles in co-creation processes, such customers as a resource and customers as co-producers and the benefits derived from customer co-creation. Section 3 provides the theoretical foundation for how a new product can be produced successfully. Section 4 discusses the theoretical underpinning related to the research context.

## Structure of the chapter

## 2 Literature Review Chapter



## 2.2 Customer engagement

The concept of "engagement" has generated great attention in recent years (Hollebeek et al., 2019; Wirtz et al., 2019). Different concepts of engagement have been studied in the literature such as personal engagement at work (Kahn, 1990), engagement (Schaufeli et al., 2002), customer engagement (Brodie et al., 2011; Harrigan et al., 2018, 2017), online customer engagement (Calder et al., 2009a), consumer brand engagement (Hollebeek et al., 2014), online brand engagement (Mollen and Wilson, 2010), brand engagement in self-concept (Sprott et al., 2009) and customer engagement behaviour (Van Doorn et al., 2010). Moreover, in different subfields of psychology, the concept of engagement has been characterised as vigour, dedication and absorption (Schaufeli et al., 2002), attention and absorption (Rothbard, 2001), and Maslach et al. (2001) stated that engagement is represented as energy, involvement and efficacy which are the opposite of burnout. In addition, customer engagement in particular media has been tested in advertising studies (e.g., Woodard, 2006). Customer engagement in the field of advertising has been related to advertising effectiveness (Calder et al., 2009a; Wang, 2006).

### 2.2.1 Definition

In a social exchange relationship, there are two parties: client and firm. Kumar et al. (2010) emphasise how customers' engagement with an organisation, by providing feedback and sharing product and service information with a firm and other customers, and the outcome inform the customer of any news about the business product or service (offers or rewards) (Brodie et al., 2011). The definition of engagement in the literature reviews has overlapped with other constructs; some researchers look at the concept of engagement as a synonym for relational created terms like involvement, commitment, empowerment and activation (Kidd,

2011; Zhang et al., 2013) while others have stated that engagement has developed to take the place of most traditional, similar concepts including involvement and participation (Brodie et al., 2011). Additionally, involvement is viewed as an antecedent of customer-brand engagement (Hollebeek, 2011).

The concept of "engagement" has been increasingly used in the literature to date from different perspectives. Wagner and Majchrzak defined "customer engagement" from an information system perspective as the "intensity of customer participation with both representatives of the organisation and with other customers in a collaborative knowledge exchange process" (2006, p. 20). Meanwhile, Mollen and Wilson defined "brand engagement" within specific online contexts; the authors describe consumers' engagement as "the 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" (2010, p. 12). Furthermore, Kahn defined personal engagement as "the harnessing of organization members' selves to their work roles; in engagement, people employ and express themselves physically, cognitively, and emotionally during role performances" (1990, p. 694); he stated that engagement means being psychologically present when performing the role of the organisation. Schaufeli and Bakker defined "engagement" as a "positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption" (2004, p. 295). However, Calder et al. (2009) argue that there are no specific meanings of customer engagement and that researchers do not agree on what exactly this term means. This part briefly discusses the appropriate literature on customer engagement definitions, which is also summarised in Table 2.1

**Table 2-1 Engagement conceptualisation and dimensions in different fields**

| <b>Author(s) \<br/>Year</b>  | <b>Concept</b>                    | <b>Definition</b>                                                                                                                                                                                                                                       | <b>Dimensions*</b>                                                         |
|------------------------------|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|
| <b>Psychology literature</b> |                                   |                                                                                                                                                                                                                                                         |                                                                            |
| Kahn<br>(1990)               | Personal<br>engagement<br>at work | "Engagement is the simultaneous employment and expression of a person's 'preferred self' in task behaviors that promote connections to work and to others' personal presence (physical, cognitive and emotional) and active, full performances" (p.700) | Multi-dimensional:<br><br>physical,<br>cognitive,<br>emotional             |
| Schaufeli et<br>al. (2002)   | Engagement                        | "Engagement is a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication and absorption" (p.72)                                                                                                                     | Multi-dimensional:<br><br>vigour (P),<br>absorption (C),<br>dedication (E) |
| <b>Marketing literature</b>  |                                   |                                                                                                                                                                                                                                                         |                                                                            |
| Brodie et<br>al. (2011)      | Customer<br>engagement            | "Customer engagement is a psychological state that occurs by virtue of interactive, co-creative experience with a focal agent/object (e.g., a brand) in                                                                                                 | Multi-dimensional:<br><br>cognitive (A), emotional<br>(D), behavioural (P) |

|                               |                     |                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                  |
|-------------------------------|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                               |                     | focal service relationships" (p. 260)                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                  |
| Pansari and Kumar (2016)      | Customer engagement | "the attitude, behavior, the level of connectedness (1) among customers, (2) between customers and employees, and (3) of customers and employees within a firm (p .2) | <p>Customer purchases (e.g., posting content on social media)</p> <p>Customer referrals</p> <p>Customer influence (e.g. word of mouth)</p> <p>Customer knowledge (e.g., feedback and ideas for innovations and improvements)</p>                                                                                                                                 |
| Jaakkola and Alexander (2014) | Customer engagement | "Behavior through which customers make voluntary resource contributions that have a brand or firm focus but go beyond what is fundamental to transactions" (p. 248)   | <p>Augmenting behaviours (e.g., posting content on social media and customers inventing alternate uses for a product).</p> <p>Co-developing behaviours (e.g., generating ideas and information for new development products, participating in the product development process)</p> <p>Influencing behaviours (e.g. word of mouth, blogging, recommendations,</p> |

|                          |                            |                                                                                                                                                                                                                  |                                                                                                                                                                                                                                    |
|--------------------------|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                          |                            |                                                                                                                                                                                                                  | customer-to-customer interaction)<br><br>Mobilising behaviours (e.g., recruitment, boycotts)                                                                                                                                       |
| Calder et al. (2009)     | Online customer engagement | Engagement comes from experiencing a website in a particular way while experience has been defined as a client's beliefs about how the website fits into his/her life                                            | Multi-dimensional:<br><br>stimulation and inspiration (D), social facilitation (E), temporal (C), self-esteem and civic-mindedness (E), intrinsic enjoyment (E), utilitarian (C), participation and socialising (P), community (E) |
| Hollebeek et al. (2014)  | Consumer brand engagement  | "Consumer engagement is a consumer's positively valenced cognitive, emotional and behavioral brand-related activity during, or related to, specific consumer/brand interactions" (p. 36).                        | Multi-dimensional:<br>cognitive processing (C), affection (E), activation (P)                                                                                                                                                      |
| Mollen and Wilson (2010) | Online brand engagement    | Consumers' engagement is "the 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" | Multi-dimensional:<br><br>sustained cognitive processing (C), instrumental value (C), experiential value (E)                                                                                                                       |

|                                      |                                            |                                                                                                                                                                                      |                                    |
|--------------------------------------|--------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|
|                                      |                                            | (p. 12)                                                                                                                                                                              |                                    |
| Sprott et al.<br>(2009)              | Brand<br>engagement<br>in self-<br>concept | "An individual difference<br>representing consumers'<br>propensity to include important<br>brands as part of how they view<br>themselves" (p. 92)                                    | Unidimensional:<br>emotional       |
| Van Doorn<br>et al. (2010)           | Customer<br>engagement<br>behaviour        | "the behavioral manifestation<br>from a customer toward a brand<br>or a firm which goes beyond<br>purchase behavior" (p. 254).                                                       | Unidimensional:<br>behavioural (P) |
| <b>Information system literature</b> |                                            |                                                                                                                                                                                      |                                    |
| Erat et al.<br>(2006)                |                                            | "Engagement with<br>Customers calls for<br>exchanging information<br>and knowledge with<br>customers and fostering<br>exchanges between<br>customers" (p. 511)                       | Unidimensional:<br>behavioural (P) |
| Wagner and<br>Majchrzak<br>(2006)    | Customer<br>engagement                     | "Intensity of customer<br>participation with both<br>representatives of the<br>organization and with other<br>customers in a collaborative<br>knowledge exchange process"<br>(p. 20) | Unidimensional:<br>behavioural (P) |

*\*engagement dimensionally: physical (P), cognitive (C) and emotional (E).*

While most researchers have described customer engagement as a multidimensional construct, some have also described it as a unidimensional construct. In addition, many researchers have named these dimensions differently, though they point to the same dimensions sets. Customer engagement includes cognitive, emotional and behavioural dimensions (Linda Hollebeek,

2011; Mollen and Wilson, 2010). Cheung et al. (2011) indicated the same dimensions but with different terminology as vigour, absorption and dedication.

So et al. (2016) stated that customer engagement must combine both psychological and behavioural dimensions and they indicated that engaging customers only behaviourally is not true customer engagement as a customer might join the firm discussion forum to get product information (Brodie et al., 2013) instead of being connected psychologically to the firm. When customers are engaged with the firm, they must have a permanent psychological interaction with the firm, plus behavioural involvement (Hollebeek, 2011; So et al., 2016).

The customer engagement concept is a multidimensional construct and the multidimensional process captures the comprehensive meaning of the customer engagement concept. As a result, So et al. (2016, p. 2) defined customer engagement as "a customer's personal connection to a brand as manifested in cognitive, affective, and behavioral responses outside of the purchase". This definition offers an important conceptual basis for customer engagement and provides a validated measurement scale which will be applied in this research. CE contains five dimensions which are explained as follow:

- **Enthusiasm** is the level of the customer's excitement and interest with regard to concentrating on engagement
- **Attention** is the level of the customer's attention to the brand
- **Absorption** consists of being fully concentrated and deeply engrossed while playing the role as a consumer of the firm
- **Interaction** refers to a customer's online and offline involvement with the brand
- **Identification** refers to the level of the customer's belongingness to the firm (So et al., 2016)

Enthusiasm, attention, absorption, interaction and identification are five dimensions of customer engagement identified by So et al. (2016). Enthusiasm is a state of emotional actions, which is also known as excitement about the engagement object (Kuvykaitė and Tarutė, 2015). Hollebeek et al. (2014) state that the emotional engagement factor can be described as consumer attachment; the consumer feels positively towards the firm during the consumer-firm interaction process. Vivek (2009) suggests three dimensions of customer engagement which are enthusiasm, conscious participation and social interaction; the enthusiasm is consistent with the emotional dimension. Attention is the level of a customer's concentration on the brand (Harrigan et al., 2017). Attention is equivalent to engagement (Lin et al., 2008). Continuous attention towards the brand is probable to strengthen the customer-firm relationship which drives higher levels of engagement (Scholer and Higgins, 2009). Absorption goes beyond attention which consists of being fully concentrated on and deeply engrossed in the firm (Schaufeli et al., 2002). Absorption has been seen as being engrossed in and focused on a certain role, characterised by time passing quickly and the difficulty of separating oneself from the job (Kahn, 1990; May et al., 2004; Schaufeli et al., 2002). Interaction is a behavioural factor of customer engagement (Harrigan et al., 2017). It is customer involvement in offline and online activities with the firm or other customers beyond the purchase (So et al., 2014). It includes sharing ideas, thoughts and feelings about the experience, products and services with the front line of the firm or another of the firm's customers (Vivek, 2009). Identification happens when the consumers feel that their self-image matches the organisational image (Bagozzi and Dholakia, 2006). Strong consumer-firm relationships rely on consumers' identification with the firms, which assists them in satisfying their self-definitional needs (Bhattacharya and Sen, 2003). It motivates consumers to participate and engage in firm activities (Bhattacharya and Sen, 2003).

### 2.2.2 Customer engagement dimensions

Vigour, dedication and absorption are the three dimensions of work/customer engagement identified by Schaufeli et al. (2002) and Brodie et al. (2011). The dimension of vigour is described as high levels of energy and mental resilience while working or engaging with the firm and an employee's /customer's willingness to make noticeable effort in their engagement. Hence employees/customers who feel full of energy are extremely motivated by their engagement and also probably remain very constant when facing any obstacles during the engagement process.

The dimensions of dedication associated with a combination of feelings of enthusiasm, significance and inspiration, indicate a strong involvement with the firm. Cooper-Hakim and Viswesvaran considered dedication in their study as job involvement which has been defined as "the degree to which an employee psychologically relates to his or her job and to the work performed therein" (2005, p. 244). Job involvement is also a function of the extent to which the job can satisfy and meet the current employees' needs (Mauno et al., 2007). However, May et al. (2004) pointed out that job involvement is different from engagement; job involvement refers to the outcome of a cognitive judgment about the need-satisfying capabilities of the job, whereas engagement is about how individuals employ themselves in terms of job performance.

The final dimension is absorption which has been seen as being engrossed in and focused on a certain role, characterised by time passing quickly and the difficulty of separating oneself while engaging with the firm (Kahn, 1990; May et al., 2004; Schaufeli et al., 2002). Some researchers have stated that there are similarities between the experience of absorption and flow (e.g. Langelaan et al., 2006). Csikszentmihalyi described the term "flow" as "The state in which people are so intensely involved in an activity that nothing else seems to matter; the experience

itself is so enjoyable that people will do it even at great cost, for the sheer sake of doing it" (1990, p. 4). However, Schaufeli et al. (2002) have argued that flow holds a different meaning to engagement, whereby flow is linked to a temporary peak experience while engagement is a continual state of mind.

In addition, May et al. (2004) differentiate between a physical element (e.g. I spend a lot of energy when engaging with the firm), emotional element (e.g. I put my heart into commenting on products) and cognitive element (e.g. sharing information with others is so absorbing that I forget about the world around me), which is consistent with the dimensions proposed by Schaufeli and Bakker (2004), which are vigour, absorption and dedication. Salanova et al. (2005) have claimed that when the firm's staff members feel active (vigorous), involved and cheerful in the organisation, they might experience good impressions of their work characteristics and service climate. Hollebeek et al. (2014) found that there is an important indirect impact of "customer involvement" on "brand usage intent" with the three customer engagement dimensions (vigour, dedication and absorption). Kahn (1990) pointed out that an individual becomes physically engaged in business, with their own or with others, cognitively, in a way that shows what they feel, their creativity, and their interaction with others. Customer engagement is demonstrated cognitively and effectively (the customer's feelings and experience) (Maslach et al., 2001) or behaviourally and socially (customer participating) (Sawhney et al., 2005) and emotionally (confidence, trust and commitment) (Kahn, 1990). This part briefly discusses the appropriate literature on customer engagement dimensions, which is also summarised in Table 2.1.

### 2.2.3 The importance of offline-online customer engagement

Palmatier et al. (2006) found that relationship marketing becomes more effective in two cases: when it is more significant to a customer (service offering, channel exchanges) and when it is built with individuals not with organisations. They pointed out that the huge positive impact of communication is in line with its role in revealing value creating opportunities and solving problems. They defined communication as "information shared between exchange partners" (Palmatier et al., 2006, p. 138). Information communication is considered as one of the key behaviours that organisations can use to develop customer satisfaction and trust (Agnihotri et al., 2016; Ahearne et al., 2007). Successful marketing relationships lead to the enhancement of customer satisfaction and maintain the firm's performance (Chumpitaz Caceres and Paparoidamis, 2007). Ball et al. (2004) claim that good communication can positively affect trust, satisfaction and loyalty. Moreover, Wu et al. (2003) stated that communication and sharing information between customers greatly affects customer satisfaction and loyalty in a positive way. Bendapudi and Leone (2003) explain the importance of clients' psychological responses to engagement and the effect of these responses on customer satisfaction. Moreover, Anderson et al. (1994) indicate that customer satisfaction is influenced by quality, price and expectation.

The technological revolution has created new ways for firms to promote their business; organisations can create accounts to advertise their products and service and also exchange information with clients via social media applications (Järvinen and Taiminen, 2016). Clients' interests in products or specific brands on the internet were initiated in the 1990s, when users began utilising online communities such as bulletin boards, chat rooms and email list servers to share ideas, preferences and opinions about products (Kozinets, 2002). The emergence of social media has led to the expansion of interest in customer engagement, given the

opportunities offered by these kinds of media to build closer relationships with clients (Cabiddu et al., 2014). Social media platforms can be used to create new opportunities for businesses, new ideas to strengthen relationships with customers and to improve collaboration between customers and firms, as well as customers and customers (Hoffman and Fodor, 2010). These platforms are used widely by individuals for informational brand exchange in Business to Business (Chakravarty et al., 2014) and Business to Customer firms (Pansari and Kumar, 2016), and social media platforms have a significant effect on online communities and enjoy a higher level of customer engagement compared to traditional marketing (Trusov et al., 2009). The feedback and suggestions provided by customers through such platforms may help companies to enhance their products and services and collect new ideas for new product development (Jussila et al., 2014; Pansari and Kumar, 2016). Customers add importance to the firms by assisting them to understand their preferences and by engaging in knowledge development procedures (Joshi and Sharma, 2004). For example, in the tourism industry, social media applications (SMAs) reflect a crucial innovation not only because they facilitate exchange of information through travellers (Xiang and Gretzel, 2010) and influence the travellers' experiences (Tussyadiah and Fesenmaier, 2009) but also because of their capability to stimulate more innovation (Hjalager, 2010).

With the increasing use of the internet today, organisations are developing online communities through online platforms or websites which make the connection with customers from all over the world easier and overcome geographical barriers. Growing acceptance of social networking sites (SNS) has established new online platforms for customers to facilitate communication and share information about their favourite products and personal contact with others (Cheung and Lee, 2012; Libai et al., 2010). The purpose of engaging customers socially with others not only supports the service or product but also socialises and sustains the relationships (Bagozzi

and Dholakia, 2006). A number of organisations now use online communities for commercial goals such as getting closer to their customers and getting their feedback (e.g., Williams and Cothrel, 2000), decreasing customer service costs by facilitating customer to customer problem solving (e.g., Algesheimer et al., 2005), strengthening the firm and brand (e.g., Muniz Jr and O'Guinn, 2001), and collecting valuable input for new product design (e.g., Nambisan and Baron, 2007). The relationships between customer and firm have changed significantly compared with the past. Nowadays, a firm can contact and communicate with customers in different ways including Facebook, Twitter and SNS (Hennig-Thurau et al., 2010). An organisation can simplify customer engagement by providing effective platforms for social exchange and interaction (Dholakia et al., 2009; Erat et al., 2006). Brodie et al. (2013) stated that customers can affect others' engagement through blogging, word of mouth (WOM) and other online platforms. Engagement appears through five sub-processes which are learning, sharing, co-developing, advocating and socialising that describe affective, cognitive and behavioural qualities (Brodie et al., 2011). The essential message for marketing experts is the need to understand that they participate in product and services control with their clients who have the intention to engage with them in an open, rich, honest online dialogue while social media platforms offer a great opportunity for firms to communicate with the public who have moved away from traditional media (Brown et al., 2007).

Many streams have become apparent from the existing literature on customer engagement (CE). Firstly, customer engagement is a strategic necessity for producing enhanced firm performance including sales growth (Duan et al., 2008), profitability (Arndt, 1967), competitive advantage (Prahalad and Ramaswamy, 2004), enhanced individual participation to collaborate in a new product development process (Sawhney et al., 2005) and boost the co-creation experience (Prahalad and Ramaswamy, 2004). CE plays an important role in

marketing activities through recommendation of a specific product or service to others in new product development (Hoyer et al., 2010; Nambisan and Nambisan, 2008). Nambisan and Baron (2007) have stated that customer engagement in virtual product support communities is motivated by a belief about the benefits of participating with the firm and potential customers, meaning that individuals find engagement in communication and such activities rewarding in particular ways. CE can affect others in a way that has the possibility to change their choices and real purchase behaviour (Libai et al., 2010). Researchers in the 1990s studied engagement as a psychological state which impacts on behaviour. Kahn (1990) found that there are three psychological conditions related to engagement at work, namely meaningfulness (the value that return on ones' self in role performance), safety (the ability to be employed without fear of bad consequences) and availability (acquiring the important resources to invest in self during role performance). In other words, workers are more willing to engage at work when they are psychologically meaningful, safe and available. His study and May et al.'s (2004) found that meaningfulness, safety and availability are greatly associated with engagement.

Second, 'customer engagement' reflects a motivational state; Hennig-Thurau et al. (2004) built their framework on Balasubramanian and Mahajan's study to determine the motivation for engaging in electronic word-of-mouth communication on online platforms and they extended their framework to contain two additional customer utilities which focus on the uniqueness of using such platforms; the factors that motivate a consumer to contribute to online platforms such as Focus Related Utility (concern for other consumers, helping the company, social benefits), Consumption Utility (advice-seeking), Approval Utility (self enhancement and economic rewards), Moderator-Related Utility (convenience and problem-solving support), and Homeostase Utility (expressing positive emotions and venting negative feelings). Moreover, Nambisan and Baron (2009) built their study in an online context by focusing on

the motivation that encourages customers to engage in online forums because they expect to gain benefits from such engagement such as social benefits, communication with other knowledgeable customers and enjoyment. Van Doorn et al. (2010) proposed that customer-based factors which affect customer engagement behaviour (CEB) include satisfaction, trust and brand commitment.

Third, 'customer engagement' represents a multi-dimensional concept consisting of cognitive, emotional, and behavioural dimensions. Hollebeek (2011, p. 6) viewed customer engagement as "the level of a customer's motivational, brand-related and context-dependent state of mind characterized by specific levels of cognitive, emotional and behavioral activity in brand interactions". Hollebeek et al. (2014) introduced a three-dimensional concept of engagement (Cognitive processing, Affection and Activation) which is quite similar to the dimensions described above. While eight dimensions were proposed by Calder et al. (2009), they claimed that those dimensions are illustrative of the engagement concept (e.g. Self-Esteem and Civic Mindedness, Intrinsic Enjoyment, Social Facilitation). Moreover, Van Doorn et al. (2010) identified five dimensions of CE: form or modality, scope, nature of its impact, valence and customer goals. Maslach et al. (2001), elaborating on burnout research, defined engagement as the opposite of burnout and the three engagement dimensions of energy, involvement and efficacy are opposite to the burnout dimensions which are exhaustion, cynicism, and inefficacy. Moreover, González-Romá et al. (2006) found that the gist of burnout dimensions (exhaustion and cynicism) and engagement dimensions (vigour and dedication) can be viewed as opposites of each other. However, Brodie et al. (2011) argued that in spite of the salience of the engagement concept from multi-dimensional perspectives, more than 40% of the academic literature review explained engagement as a unidimensional term which focused upon either the cognitive or emotional or behavioural aspects.

Fourth is customer engagement through electronic word of mouth (EWOM). EWOM has a great effect in virtual communities; recommendations, sharing interests and solving problems can be done at no cost and also spread rapidly not only within the online communities but also outside (De Valck et al., 2009). Thakur (2019) found that the impact of satisfaction on continuous intention to spread EWOM is strong among clients with a higher level of engagement. Information about the product or service that is provided by customers through social networks is essential in making purchasing decisions, because it reflects their experience and opinions. The reason behind this is that customers' comments and reviews are perceived as more reliable and credible than organisational information (Dellarocas, 2003). Also, they describe the product's advantages and disadvantages in terms of their perspectives, personal feelings and satisfaction (Chen and Xie, 2008). Park et al. (2007) stated that the majority of clients who decide to purchase from online shopping businesses consider customer comments to be an important key to their purchasing decision. Moreover, Godes and Mayzlin (2004) found that individuals' buying decisions are based strongly on customer comments and reviews on the Internet, and they trust online customer postings to make decisions, from the smallest "such as which movie to watch" to the largest decisions "such as which stock to invest in" (Dellarocas, 2003). However, the customer cannot rely on the reviews posted unless enough information is provided (Ratchford et al., 2001). Park et al. (2007) found that whenever the information on online platforms is comprehensive, customer satisfaction will be greater, and an increase in customer satisfaction directly and positively affects the purchase intention. In contrast, clients with a positive purchase intention will lead to positive commitment that strengthens the desire of individuals to retain the trade relationship with the organisation (Moorman et al., 1992). Thus, a greater purchase intention will result in greater customer satisfaction. Moreover, WOM communication is seen as more **influential** because information from personal experience is considered to be more accurate and trustworthy than information

from a marketing source (Bickart and Schindler, 2001; Feick and Price, 1987). When the recipient believes that the sender is providing unbiased information, the evaluation of the WOM is that it is more trustworthy (Gotlieb and Sarel, 1991). In the era of online platforms, the impact and classification of WOM has been enhanced as customers or users can make their opinions and experiences easily available and reachable to other online users (Dellarocas, 2003). Moreover, Chevalier and Mayzlin (2006) tested the impact of customer reviews and comments on online books at Amazon and Barnes and Noble and found that book sales can be strongly affected by WOM; they reported that negative reviews have a greater influence on sales than positive reviews. In support of this point, Ahluwalia (2002) claimed that customers care more about and accept negative information. Richins and Bloch (1991) reported that the lack of experience and information make the customer tend to accept negative EWOM in particular. Liu (2006) noted that performance (box office revenue) is increased by either positive or negative WOM.

Lastly, many researchers have studied the consequences of customer engagement; the reason behind the popularity of customer engagement is that it has positive outcomes for firms. Cropanzano and Mitchell (2005) pointed out that the relationship and information exchange evolve with the passage of time into trust, loyalty and shared commitment, which mean that customers who are more engaged are likely to have higher quality connections with the organisation which might result in positive behaviour towards the firm (Saks, 2006). Previous studies in the CE field have considered the consequences of engagement which include trust (Hollebeek, 2011), commitment (Chan and Li, 2010), connection (Brodie et al., 2013), empowerment (Füller et al., 2009; Schau et al., 2009), emotional brand attachment (Brodie et al., 2011), consumer value (Gruen et al., 2006), loyalty (Hoyer et al., 2010) and satisfaction (Challagalla et al., 2009). Reaching those marketing objectives was found to be of great

significance for the organisation which leads to increased profitability and revenue (Heskett et al., 1994; Kumar et al., 2010). This part briefly discusses the appropriate literature on engagement which has also been summarised in Table 2.2

**Table 2-2 Summary of the important papers related to engagement**

| <b>Author(s)/Year</b> | <b>Main Contribution</b>                                                                                                                                                                                                                                                                             | <b>Key Findings</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Brodie et al. (2011)  | Examining the concept of engagement within marketing, social science and management literature, established five fundamental propositions to develop the general customer engagement definition and discriminate the concept from other relational terms such as "involvement " and "participation". | <p>*Customer engagement reflects a psychological state caused by a customer's interactive experience with a brand or firm.</p> <p>*Customer engagement happens within dynamic procedures characterised by co-creation value.</p> <p>*Customer engagement plays a major role in service relationships while other relational concepts are represented as antecedents or consequences of engagement.</p> <p>* Customer engagement is a multidimensional concept which is cognitive, emotional and behavioural.</p> <p>* Interactions between customer, firm and others occur within particular relationships and might create different intensity</p> |

|                      |                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                          |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                      |                                                                                                                                                                                                                                                                                                                                                                           | levels for the three customer engagement dimensions.                                                                                                                                                                                                                                                                                                                                                                     |
| Brodie et al. (2013) | <p>Exploring customer engagement in an online brand community:</p> <p>*Customer engagement is a multi-dimensional concept which reflects customer engagement as a psychological state.</p> <p>*The customer engagement process consists of sub-processes that indicate a customer's experience in the online brand community and value co-creation with the customer.</p> | <p>Customer engagement enhances loyalty and satisfaction, empowerment, connections and emotional bonds, trust and commitment.</p>                                                                                                                                                                                                                                                                                        |
| Calder et al. (2009) | <p>Defining CE with a website and its relationship to online experience, "how engagement can assist the online companies to manage their websites and advertisers to develop the effectiveness of their advertisements".</p>                                                                                                                                              | <p>Eight different online experiences have been used to measure different kinds of customer experience and based on the analysis of those experiences, they identified two types of engagement, personal and social-interactive engagement and the result was personal and social-interactive engagement are positively associated with advertising effectiveness.</p> <p>Furthermore, social-interactive engagement</p> |

|                             |                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                       |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                             |                                                                                                                                                                        | impacts on advertising after controlling for personal engagement.                                                                                                                                                                                                                                                                                     |
| Hennig-Thurau et al. (2004) | Understanding the motivation behind engaging customers in EWOM on customer-opinion platforms.                                                                          | 11 motivations have been identified in this research including concern for other customers, desire to help the firm, social benefits received, exertion of power over firms, advice seeking, self-enhancement, economic rewards, convenience in seeking redress, expressing positive emotions and venting negative feelings, and platform assistance. |
| May et al. (2004)           | Investigating the determinants and mediating impacts of the three psychological conditions, which are meaningfulness, safety and availability, on employee engagement. | Meaningfulness showed the strongest relationship with engagement while job enrichment and work role fit connected positively to meaningfulness; rewarding linked to safety and availability to resources available.                                                                                                                                   |
| Sawhney et al. (2005)       | The internet has affected collaborative innovation procedures and the capabilities of the internet as a platform for customer engagement.                              | Three themes in internet-based collaboration with the client to support new product development were observed from the case studies:                                                                                                                                                                                                                  |

|                         |                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                         |
|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                         |                                                                                                                                                             | <p>*the internet should be used as an integrated platform for customer engagement in multiple way for different goals;</p> <p>*the organisational changes need to keep pace with the adoption of collaborative innovation with the customer;</p> <p>*the emergence of autonomous web-based innovation marketplaces.</p> |
| Schaufeli et al. (2002) | Examining the factorial structure of new tools to measure engagement.                                                                                       | <p>Engagement dimensions: vigour represents levels of energy and mental resilience. Dedication is a sense of significance, enthusiasm, inspiration, pride and challenge. Absorption is being fully concentrated, happily and deeply engrossed in one's work.</p>                                                        |
| Van Doorn et al. (2010) | Defining the concept of customer engagement behaviour and developing a conceptual framework of its antecedents and consequences for both customer and firm. | <p>Customer engagement behaviour antecedents:</p> <p>for the customer: satisfaction, trust and commitment, identity, resources and perceived costs/benefits;</p> <p>for the firm:</p>                                                                                                                                   |

|  |  |                                                                                                                                                                                                                                                                                                                    |
|--|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  | brand characteristics, firm reputation, firm size, firm information and processes and industry.<br>Customer engagement behaviour consequences:<br>for the customer:<br>cognitive, attitudinal, emotional, physical and identity;<br>for the firm:<br>financial, reputational, regulatory, competitive and product. |
|--|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## 2.3 Customer co-creation

In the newly emerging co-creation paradigm, customers actively engage in the NPD process. Prahalad and Ramaswamy (2004) clarify the importance of integrating customers with the firm in the NPD process, and they have called for more studies on customer co-creation. Some researchers have responded to this call and merge the concept of co-creation with the new product development process (Chang and Taylor, 2016; Hoyer et al., 2010; Mahr et al., 2014; Veselaj and Torfason, 2019; Zaborek and Mazur, 2019).

New product development is an essential motivator for firm success and profitability (Sorescu et al., 2003). Numerous standards evaluate new product development, such as efficiency, effectiveness and innovativeness. Efficiency needs collaboration and arrangement, and gives rise to improvements in the time and cost of the development process (Chen et al., 2008),

whereas effectiveness needs control and regulation of processes and results in the development of a product's financial performance and quality (Wang et al., 2015). While innovation requires resilience, risk taking and breaking the rules (Levinthal and March, 1993), product innovativeness is the stage at which the product is new to the firm and the market (Tseng and Chiang, 2016).

In recent years, the emergence of the co-creation model has made customers more active in the product development process and they have the ability to create a product with an organisation's help. Experts' and academics' attention in the service-dominant logic of marketing has expanded strongly in the last decade (Vargo and Lusch, 2004). Even though previous marketing literature has focused on the client as a passive buyer for what firms produce (good-dominant logic), customers are not only receivers but they are value creators (service-dominant logic) (Xie et al., 2008). The main concept of service-dominant logic is that the customer is always a co-creator of value (Vargo and Lusch, 2008), which emphasises the importance of customer engagement in relational exchange with the organisation during co-creation procedures. This logic has been established on the premise that service makes up the basis of value creation by way of which clients are engaged at each stage of the value creation procedures (Chathoth et al., 2013). The previous research on value creation confirms the need to depend on service-dominant logic (S-D logic); innovative goods and services can be provided which help to create great customer experiences (Lusch et al., 2007). Lusch and Vargo (2006, p. 284) reported that there are two elements of value co-creation: co-creation of value from good-dominant logic "views value as something that is added to products in the production process and at point of exchange is captured in value-in-exchange (i.e. price), S-D logic, however, argues that value can only be created with and determined by the user in the 'consumption' process and through use of what is referred to as value-in-use". Value in use refers to the extent to which the client

becomes better off (Grönroos and Voima, 2013). They stated that when the value is seen as value-in-use for the client, the attention is no longer principally on a customised collection of products or services interchanged for a price but value creation becomes a continuous procedure which asserts the customer's experience, logic and capability to draw the value out of a product and other resources utilised (Grönroos and Voima, 2013). In addition, Moran and Ghoshal (1999) have claimed that it is not about the resources themselves but the capability to access, use, exchange and integrate them which embodies the real meaning of value creation. Nambisan and Baron (2009) stressed that customers in the co-creation value process are not only focused on economic and financial benefits but also social, cognitive and personal dimensions.

The second component is co-production which has been defined as "engaging customers as active participants in the organization's work" (Lengnick-Hall et al., 2000, p. 359) or involving them in product or service design procedures (Auh et al., 2007); it happens through co-design, shared innovativeness and shared production of related products (Lusch and Vargo, 2006). Co-production is an attractive process for customers; they enjoy asserting dominance over the procedures of service delivery (Bateson, 1985). Furthermore, co-production effectiveness is controlled by three customer aspects: role clarity, motivation and ability (Auh et al., 2007). Role clarity refers to customers understanding what is expected from them. Motivation refers to being motivated to get involved in a desired manner and ability refers to the important knowledge and skills the customer must have (Meuter et al., 2005). Auh et al. (2007) found that communication between a customer and firms' experts is positively associated with co-production; therefore, it increases customer loyalty and also, the increase in customer ability and role of clarity lead to an increase in the occurrence of co-production.

For value co-creation, Payne et al. (2008) suggested three important kinds of value co-creation opportunities should be considered by the firm and those opportunities are key choices for creating value: 1) opportunities that are acquired by technological developments: the development occurs in new technologies which produce new way for firms to engage with their customers to co-create products and services, in other words engaging customers with customers or firms online to co-create innovative products, services or experiences. For instance, high-tech solutions such as the iPod brought about a radical change in how customers could buy, store and enjoy music and audio; 2) opportunities that are acquired by changes in industry logics: the industrial conversions are motivated by new platforms developed to reach new clients. The assemblage of different kinds of industry exemplifies opportunities to integrate competences, capabilities and knowledge, and start new ways of co-creating value and the prominence of new competitors may create more excitement, enthusiasm and engagement with clients; 3) opportunities that are acquired by changes in client preferences and lifestyles: firms should be searching for chances based on customers' preferences and lifestyles; they pointed out that there is a trend toward individualism; customers want to co-create more individualised, experimental products and services.

Any organisations seek to take advantage of what their customers have by creating new products hand in hand. Prahalad and Ramaswamy (2004) stated that the customer is the main external source for the co-creation process. Thus, customer co-creation is defined as "a collaborative NPD activity in which customers actively contribute and/or select the content of a new product offering" (O'Hern and Rindfleisch, 2017, p. 4). In other words, co-creation allows customers to actively participate in the NPD process. The organisation might capitalise on this resource by engaging in co-creation procedures where clients provide knowledge, ideas and skills that are beneficial for new product development processes (Hoyer et al., 2010;

Sawhney et al., 2005). However, there are some difficulties faced by organisations when engaging customers effectively in the new product development. This is due to several reasons; clients can be confined sources of innovation because of the dearth of their inventive ideas (Christensen and Bower, 1996) and inability to express their latent needs clearly (Franke et al., 2009), increased difficulties can stem from matching companies' goals and clients' interests (Hoyer et al., 2010) and users or customers often lack the skills or knowledge that NPD requires (Randall et al., 2005). Prahalad and Ramaswamy (2004) argued that certain consumers have knowledge and skills that may be equal to those of internal NPD members in the firm. Two important resources for competitive edge can be created by the firm when implementing co-creation activities successfully (Hoyer et al., 2010): 1) productivity can be obtained out of efficiency such as decreased failure risk (Prahalad and Ramaswamy, 2004) and reduced new product and service development costs (Grewal et al., 2006); 2) some benefits can be reached in terms of the effectiveness of the co-created product, such as willingness to pay and purchase intention (Franke et al., 2009).

In most industries, individuals have played a limited role in new product development (Wayland and Cole, 1997). There are many reasons behind the weak usage of the customer as a resource, and the most limiting element is poor connectivity between the firm and customers (Nambisan, 2002). In short, new social media platforms have greatly improved connectivity between the organisation and the customer in a cost-efficient manner, and they support a new model of product development that engages customers as partners in innovation.

There are two important kinds of information that successful new product development requires: information about individuals' needs and information about how to meet these needs (Thomke and Von Hippel, 2002). The client has reliable knowledge about the first type while

the organisation has accurate knowledge about the second one. This inequality creates a mismatch of information between customers and firms (Von Hippel, 2005). Yi and Gong (2013) developed a scale of customer co-creation behaviour which contains two dimensions: customer participation behaviour and customer citizenship behaviour. Each dimension has four elements. The customer participation behaviour is (in role) client's behaviour important for value co-creation success comprises information seeking (the customer seeks information to explain the service requirements and satisfy other needs and also they need information to know how to accomplish their task as a co-creator), information sharing (sharing information by the customer leads to successful value co-creation (Lengnick-Hall, 1996) because this information helps a firm to provide the product or service which meets their expectations (Ennew and Binks, 1999)), responsible behaviour (this happens when clients realise their obligations and responsibilities as part-time employees (Ennew and Binks, 1999), a customer needing to be collaborative, taking into account the rules and accepting guidance from the firm (Bettencourt, 1997)) and personal interaction (a close social relationship between the customer and firm such as courtesy, kindness and respect (the more enjoyable and positive the social environment is, the higher the level of customer engagement in co-creative processes) (Lengnick-Hall et al., 2000)). Customer citizenship behaviour is, however, an optional (extra) behaviour that offers additional value to the company but is not required for a value co-creation process. It is categorised into four elements, namely feedback (all important and unimportant information and suggestions that a customer provides are valuable to assist the firm to develop their product and service in the long term), advocacy (recommending the company to others through positive word of mouth which is a sign of customer loyalty and leads significantly to a positive company reputation (Bettencourt, 1997)), helping (assisting other clients is the goal of customer behaviour; they remember the difficulties that they faced in their experience and show social responsibility in assisting customers facing similar difficulties) and tolerance (the

client readiness to be patient when the product or service delivery does not meet their expectations of proper service as in the case of delay (Lengnick-Hall et al., 2000).

New product development has been conceptualised into five stages: idea generation, concept development, product design, product testing and product introduction (Ulrich, 2003). Many researchers have realised the importance of engaging customers in the early stage of new product development (Biemans, 1992; Gruner and Homburg, 2000). Avoiding uncertainty and producing new products successfully are the main reasons for organisations to interact with customers through a network in the early stages of NPD (Lynch et al., 2016). Co-creation has been defined as the dynamic of engagement and interaction of the individuals and firms in every aspect of the value creation process (Vargo and Lusch, 2004). Co-creation goes hand in hand with user-innovation which means that customers engage in the new product development process and firms consider customers to be an innovation resource in order to boost a new product or service value (Bogers et al., 2010).

Realising the sources of ideas is crucial for innovation. The huge growth in new technologies and platforms has given customers an important role in the NPD process; the internet offers opportunities for consumers to share their knowledge through different online tools (Prahalad and Ramaswamy, 2004). Moreover, the internet allows firms to establish strong online communities and interactive platforms in order to listen to and communicate with a large number of customers (Fuchs and Schreier, 2011). Open networks are considered a means for firms to gather a large number of ideas (Pisano and Verganti, 2008). Nowadays, the organisation must find many ways to engage in idea generation with their clients, and the role of the customer is not limited to being involved in idea generation for new products, but also in co-creating with the organisation (Nambisan, 2002). Sawhney and Prandelli (2000, p. 31)

have pointed out that new technology enables "a shift from a perspective of exploiting customer knowledge by the firm to a perspective of knowledge co-creation with the customers".

The internet plays a huge role in ensuring the organisation understands their customers' needs effectively and has a great impact on product development (Fuchs and Schreier, 2011). In line with this, Hauser et al. (2006, p. 688) considered that "Successful innovation rests on first understanding customer needs and then developing products to meet those needs". Moreover, the internet enriches the creative abilities of customers by connecting them with others and with the firm, which allows them to engage efficiently in co-creation (Sawhney et al., 2005). Moreover, there are many firms which have created online platforms in order to merge a customer's ideas for a new product into the new product development process more directly, such as BMW and Starbucks (Sawhney et al., 2005). Some companies capitalise from customer engagement in NPD. For example, a Japanese customer goods brand called Muji reported that three years after introducing products to the market, the total for product sales from users' ideas was over five times greater than the sales of products produced on the basis of professional designers' ideas (Nishikawa et al., 2013).

Another perfect example of customer co-creation is Threadless (a fashion company based in Chicago). Threadless has established a strong online community with more than 120,000 followers who provide the organisation with guidance on which product should be produced and marketed and the customers or users submit new T-shirt designs (the firm receives 500 new designs weekly); additionally, the customers vote for which T-shirt they want produced and each new T-shirt design is evaluated by 1,500 users. Based on client engagement, Threadless produces the best five T-shirt designs weekly and rewards the winners with a cheque for \$2000 (Fuchs and Schreier, 2011). This example has confirmed Schreier's finding

about a greater readiness to pay for products when customers can engage in the production process (2006). The reason behind the readiness to pay is that co-creative organisations provide something that fits customers' preferences and requirements more fully than standardised products (Franke and Schreier, 2010). Consequently, the main perception is that some ideas produced by these self-selected users may be better than the ideas generated by a firm's professional designers (Schreier et al., 2012).

As marketing strategies change, organisations should listen to the customer's voice as the customer can play a huge role in the firm's innovation activities. Whilst customer engagement is considered to be an important element in product innovation (von Hippel, 1988), the internet strongly supports the capability of the organisation to engage with clients in product innovation procedures (Dahan and Hauser, 2002). In addition, Starr and MacMillan (1990) emphasise how using social exchange relationships provides crucial sources of inspiration for the organisation. Due to the internet and communication technology revolution, organisations recognise the powerful nature of social media platforms in collaborative innovation to reach productive customers locally and internationally (Gassmann, 2006). Gruner and Homburg (2000) stated that communication and interactions with clients represent one source of product success. Moreover, communication is an essential factor in a firm's capability to control value co-creation (Payne et al., 2008).

The increasing competition in today's marketplace makes firms recognise the need to innovate in partnership with their clients, and an increased importance in using the customer as a resource has made organisations change their innovation strategy from innovation for clients to innovation with them (co-creation), allowing them to be involved in knowledge creation procedures. Cooperation with partners in new product development and co-creation has

become a strategic necessity for organisations in the business network world (Gulati et al., 2000; Iansiti and Levien, 2004). Additionally, marketers are encouraging customers to share their ideas and information while there has been difficulty in gathering information through traditional marketing methods (Von Hippel, 2005). Information is a key source of competitive advantage because it enhances innovation (Grant, 1996; Yi and Gong, 2013). Through sharing information with the firm, clients can ensure that the firm offers products or services that meet their needs (Ennew and Binks, 1999). Therefore, the information provided by customers might ensure the organisation meets the customers' needs and decrease the risk of a product failing (Ogawa and Piller, 2006). As a result, engaging customers in creation value procedures is essential (Fuchs and Schreier, 2011).

Fang et al. (2011) divided customer assets and innovation assets into two dimensions: depth and breadth. Asset depth comprises asset concentration and it is very important for value creation because the advantages of deep assets are to be different, scarce and hard to duplicate. Meanwhile, asset breadth refers to asset variety and it is valuable for creating value over time because broad assets offer various and costly contexts for value elicitation from unique offerings; deep customer assets reflect a deep understanding of customer requirements and desires which give the company a clear image on how to create, develop and bring value to the clients and firms with deep customer assets by offering the advantages of deep assets such as difference, scarcity and being hard to duplicate, which help them to elicit profound knowledge of the sector trends and get feedback about new products and services; those advantages lead to performance improvement through new products and lead them to produce new products successfully. In addition, the company can benefit more fully from knowledge acquired from customer assets when it obtains innovation assets at the same time; a company with a breadth of innovation assets can assess and absorb the opportunities that arise from their client assets

because the breadth of innovation assets grants them wide and various technology portfolios so companies can spread their various technology to produce various, unique and customised products that meet their clients' needs. This helps them to achieve higher financial performance (Fang et al., 2011).

### **2.3.1 The customer role in the co-creation process**

Clients have begun to change from having the negative role of "speak only when spoken to" (Von Hippel, 1978, p. 40). In the management literature, an enormous amount of research has determined five client roles in value creation: resource, co-producer, buyer, user, and product (Lengnick-Hall, 1996). The first two customer roles represent the input side of the firm activity and co-creation procedure, while the last three are its outputs (Nambisan, 2002). This research will focus on the customer as a resource and customer as a co-creator because most researchers are agreed that companies can rely on customers in the early stages as an influential way to speed up the NPD procedures, resulting in NPD success, reducing the risk of failure, decreasing the cost of new product development and saving time and cost (Chang and Taylor, 2016; Grewal et al., 2006; Gruner and Homburg, 2000; Hoyer et al., 2010; Prahalad and Ramaswamy, 2004). Moreover, engaging customers in the upstream stages helps in determining the design troubles early, choosing ideas efficiently, decreasing design changes in the downstream stages of the product development procedures and producing innovative ideas (Lau et al., 2010).

#### ***2.3.1.1 Customer as a resource: (ideation)***

According to Prahalad and Ramaswamy (2000, p. 80), when an organisation utilises the co-creation process "consumers become a new source of competence for the Corporation"; the market place has been radically changed by the customer. In light of the growing number of

institutions that harness the power of the internet to benefit from the ideas of customers, customer have become more effective in the market place and have the capability to build economic value (Kucuk and Krishnamurthy, 2007). Idea generation is often the starting point for innovation and the first stage of NPD (Hoyer et al., 2010). Lusch and Nambisan (2015) identified three customer roles based on the nature of service interchange and the kind of resources integration accomplished: ideator, designer and intermediary. "The role of ideator reflects customer capability to bring knowledge concerning their needs and unique work to the firm context and to integrate it with knowledge concerning their use of existing market offerings to envision new services" (Lusch and Nambisan, 2015, p. 168).

Creative clients in virtual communities are always independent of the firm (Wu and Fang, 2010). Customers have comprehensive knowledge about the product, participate in product-related discussions and assist each other in solving problems and collecting new product ideas (Füller et al., 2008). Some researchers have pointed out that the early stages of innovation procedures are important to launch a new product successfully (e.g. Hoyer et al., 2010). A high level of customer co-creation in the idea generation and formation stage can greatly affect new products and organisation performance (Gruner and Homburg, 2000). Using traditional marketing research methods at the early stages of new product development, such as engaging with the customer in co-creating value through a focus group, would be expensive and limit significantly the interaction between the customer and firm while new technology such as the internet has significantly changed customer co-creation (Sawhney et al., 2005). Therefore, an organisation can benefit from these technologies to innovate and co-create value with clients in a cost effective manner (Prahalad and Ramaswamy, 2004).

This stage can increase the extent and depth of information acquired from a customer at a lower cost (Evans and Wolf, 2005). Engaging customers at the early stages of new product development can reduce the risk of failure (Prahalad and Ramaswamy, 2004) and decrease the cost of new product development (Grewal et al., 2006). However, firms face some difficulties when using customers as resources; the first one is associated with choosing client innovators and building a relationship with them. It is difficult for firms to find appropriate client innovators in an efficient manner. The second challenge is associated with finding suitable incentives to encourage customers to contribute to new product ideas and the third challenge is associated with catching the customer's knowledge and ideas (Nambisan, 2002). Chang and Taylor (2016) found that companies can rely on customers in the ideation and launch stages as an influential way to speed up the NPD procedures which result in NPD success. They stated that the financial performance of the new product is improved by engaging customers in the early stages of new product development. Customer engagement allows a firm to gain exact knowledge about the clients' changing needs and to prevent the delay caused from disparity between the ideas and needs. This results in expediting time to market and assisting the company to recognise new value co-creation opportunities in a short time period (Carbonell et al., 2009).

#### *2.3.1.2 The customer as co-producer or co-creator: (design and development)*

Clients play an important role as co-creators in new products. When the customers are involved as co-creators in an organisation's production procedures, it means that customers engage with the organisation in the NPD process (Grönroos, 2011). Lusch and Nambisan (2015, p. 168) classified three customers roles; the second one was the role of "designer [which] reflects the capability of beneficiaries of service offerings to mix and match existing knowledge

components or resources to configure (or develop) new services". Co-production comprises engaging the customer in product design procedures (Etgar, 2008). Customers' participation can take two specific shapes: firstly, supporting continuous product development by ensuring the customers who are seeking certain results in their products and services engage in the co-production process (Sawhney et al., 2004). Therefore, customers will be capable of making modifications and co-developing the products and services in accordance with their personal preferences (Von Hippel and Katz, 2002). Secondly, customers can be involved in collaborative innovation procedures by contributing by sharing their ideas, experience and feedback in order to co-develop the new version of products and services in the market (Nambisan, 2002). Although there are probable benefits from using the customer as co-producer, such procedures cause management challenges such as boosting the project uncertainty. Additionally, new structures are needed to control and monitor the growth of quality and effectiveness of the products or services (Lengnick-Hall, 1996). In addition, customers may easily waver as co-producers and thus the development process may be disrupted (Nambisan, 2002). Furthermore, in order to involve the customers in the value-creation process, they might need to have a high level of product and technology knowledge, so improving their technological awareness will be the organisation's goal. The customers as co-creators should be well-merged with the internal new product development team (Nambisan, 2002). For example, on Procter & Gamble's homepage, under the button "share your thoughts", they give their customers an opportunity to participate and share ideas with the NPD team so they can engage in designing, testing and producing new products and many others have established online platforms with the purpose of encouraging their clients as co-creators into new product development procedures more actively, such as BMW, Ducats and Adidas (Fuchs and Schreier, 2011; Ogawa and Piller, 2006). Moreover, Payne et al. (2008) have pointed out that co-production can be viewed as "self-service", where the clients play the

employees' role in designing their own product (e.g. IKEA actively engages their customers in essential activities including transportation and collection of furniture). Customers can engage not only in idea generation but also in providing feedback on diverse designs and therefore engaging in innovation development in the virtual world (Edvardsson et al., 2012; Nambisan, 2002). Engaging customers as co-developers of an organisation is well recognised as a valuable element leading to successful products/services (Carbonell et al., 2009).

Dahan and Hauser (2002) developed six web-based methods that facilitate the engagement of internet users effectively when compared to traditional market research methods. They identified the user design method, for instance, allowing the customers to design their own goods in accordance with their needs. Styling and feature choices and prices are shown at the same time when utilising the internet to produce the perfect product. Moreover, in online market research, the customers are not just giving their opinions and needs but they are welcome to share their creativity and problem-solving ability by producing and assessing new product ideas, detailing the product concept, explaining and developing alternative solutions and acquiring more information about the new product (Füller and Matzler, 2007) and they give an example of Swarovski which established a "design competition" community. First, customers considered Swarovski's concept of Crystal Tattoos as a new product in the "Body Jewellery" category. Then the internet allowed customers to design their own crystal tattoos. More than 800 customers engaged and stated their preferences; the participants produced 263 impressive designs which helped Swarovski's design staff to understand customer needs (Füller and Matzler, 2007). Online design competitions not only enable participants to reveal their ideas to firms but also encourage users to interact, engage and vote for their preferences, discuss many topics and learn from others' feedback (Füller et al., 2011). Moreover, design competitions through social media platforms allow firms to be seen as customer-oriented and

innovative which leads to a boost in customer loyalty (Pfeil and Zaphiris, 2009). Furthermore, the study of Füller et al. (2011) showed that the utilisation of online design competitions can assist corporations to gather new design ideas and skilled individuals who are capable of thinking in a creative style, suggest and create new designs and offer important contributions to a firm's new product development process; these users can easily be reached in the internet world.

### **2.3.2 Customer co-creation dimensions**

The value is not provided to the client but is established in the process of co-creation between the firm and its customer (Quach and Thaichon, 2017). From the customer perspective, the value of co-creation is defined as “a personal appraisal of the meaningfulness of a target (product or service, further referred to as service) based on what is contributed and what is realized through the process of co-creation” (Busser and Shulga, 2018, p. 70). Five dimensions for value creation were identified by Agrawal and Rahman (2019), namely: personal, relational, economic, interactional and experiential factors. Personal value stands for the personal side of customers who create value with the firm in terms of, for example, self-esteem and feelings of achievement during a mission accomplished (Agrawal and Rahman, 2019; Busser and Shulga, 2018). Relational value represents the value arising from emotional or relational chains between a customer and a firm; economic value refers to the probable benefits (e.g. lower price, better deals) that can be obtained from the co-creation process (Chan et al., 2010). Interactional value is formed during the interchange of resources such as ideas and information (Agrawal and Rahman, 2019). Finally, the experiential component indicates emotional and symbolic value such as happiness, fun and enjoyable feelings, arising from the experience of this component (Arnould and Thompson, 2005). A friendly and fun interpersonal relationship is

considered to be enriching for the customer, which in turn, boosts customer satisfaction and plays a significant role in reducing the difficulties that might face the firm (Patterson and Smith, 2003).

Yi and Gong (2013) conceptualised customer co-creation as a multidimensional construct containing two higher-order components which are customer participation behaviour and customer citizenship behaviour; each component consists of four factors. The customer participation behaviour includes information seeking, information sharing, responsible behaviour, and personal interaction. The importance of each dimension and its effect for value co-creation are briefly clarified as follow: information seeking refers to customers' needs relating to information and knowledge to understand their role as co-creators. Information sharing is when customers provide knowledge and share information; it helps the firm to satisfy their needs (Ennew and Binks, 1999), and can be used in the co-creation process (Lengnick-Hall, 1996), which leads to successful co-creation value (Yi and Gong, 2013). Ranjan and Read (2016) found that knowledge sharing is considered to be one of the most significant factors of value co-creation as it fosters capacities in the process. Responsible behaviour occurs when customers participate in the co-creation process; they are expected to take responsibility in an interchange relationship with the firm. Finally, personal interaction refers to the personal relationships between the customers and firm, which are important in making the co-creation process succeed (Ennew and Binks, 1999). In the same context, customer citizenship behaviour comprises feedback, advocacy, helping, and tolerance (Yi and Gong, 2013). Feedback represents the information provided by customers in order to assist the firm to improve the co-creation process (Assiouras et al., 2019; Groth, 2005). Advocacy refers to recommending the firm to others (Assiouras et al., 2019; Groth, 2005). Helping refers to providing assistance to

other customers. Finally, tolerance indicates customer readiness to be patient in case of a firm's failure to meet customers' expectations (Yi and Gong, 2013).

Merz et al. (2018) conceived customer co-creation value as a multidimensional construct containing two higher order aspects; customer-owned resources and customer motivation. Four dimensions are derived from the customer-owned resources component which are knowledge, persuasion/skills, creativity, and network/connectedness. Brand knowledge refers to the knowledge that customers have about the brand. Customers' primary experience with the firm and knowledge of their needs make them the best and most valuable resources in terms of brand knowledge (Harmeling et al., 2017). Persuasion/skills indicates the extent of the impact that customers have on present or possible customers, as the information which comes from customers is more trusted, accurate and valuable than the information that comes from the firm (Harmeling et al., 2017; Trusov et al., 2009). Creativity captures a customer's improvement or development of ideas, procedures or solutions to issues (Zhou et al., 2012). The final dimension of customer-owned resources, connectedness, refers to customers' belonging to social networks that make them socialise and interact with others, either customers or the firm (Payne et al., 2008).

In a similar vein, three dimensions arise from customer motivation including passion, commitment and trust (Merz et al., 2018). Brand passion is “a strong emotional connection to a brand that people value, find important, desire to own and/or use, incorporate into their identity, and invest resources in over a period of time” (Swimberghe et al., 2014, p. 3). Passionate customers engage with and participate in an emotional and strong relationship with the firm (Belk et al., 2003). Brand commitment is a continuous desire to retain a valued relationship with the brand (Moorman et al., 1992). Committed customers engage with the firm

in the co-creation process and have a more active and committed role in developing a new product (O'Hern and Rindfleisch, 2017). Brand trust is defined as the "Feeling of security held by the consumer in his/her interaction with the brand, that it is based on the perceptions that the brand is reliable and responsible for the interests and welfare of the consumer" (Delgado-Ballester et al., 2003, p. 11). A firm can collaborate with the customer who trusts the brand within the co-creation process, and this subsequently boosts their loyalty towards the business and their readiness to engage in the innovation process (Füller et al., 2008).

Ranjan and Read (2016) conceptualised two dimensions of value co-creation: co-production and value in use; each dimension has three elements. Co-production consists of knowledge, equity, and interaction. Knowledge sharing is the main resource including sharing a client's information, ideas and creativity (Prahalad and Ramaswamy, 2004). The aim of co-creation for some clients is to share ideas, knowledge and information or engage in the process of new product development which can be important for them (Witell et al., 2011). Equity is about a customer's understanding of how famous a firm is (e.g. brand awareness). Moreover, brand equity is a client's preference for a particular firm over an alternative (Çifci et al., 2016) and customers' desire to participate in co-creation activities is the core of equity (Keller, 1993; Ranjan and Read, 2016). Interaction is a "mutual or reciprocal action where two or more parties have an effect upon one another" (Grönroos, 2011, p. 289). With regard to two actors' roles in interaction, the customer plays a role as co-producer (co-designer, co-developer) in the development of a new product process, as the customer is a main resource in the company's production process (Grönroos and Voima, 2013).

In addition, three factors are derived from value in use: experience, personalisation and relationship. Experience is a procedure that creates and leads to cognitive, emotional and

behavioural responses in the customer (Edvardsson et al., 2005). The customers participate in the co-creation process through experience in use or in a new product or service experiments (Edvardsson et al., 2010). Personalisation indicates the singularity of actual or perceived use procedure, the value being based on individual characteristics (Ranjan and Read, 2016). Combined, mutual and repeated processes are the fundamental of the relationship between customer and the firm or another customer (Ranjan and Read, 2016).

Merz et al. (2018) linked their work to Ranjan and Read's (2016) work. They stated that the co-production dimension with elements of knowledge, equity, and interaction can be connected to the customer-owned resources dimension with elements of knowledge/creativity, skills, and connectedness. And the value-in-use dimension with elements of experience, personalisation, and relationship can be connected to the customer motivation dimension with elements of passion, commitment and trust (Merz et al., 2018).

### **2.3.3 Co-creation benefits**

Customers are motivated to engage in co-creation value when they anticipate different benefits in return for their participation. For example, Hoyer et al. (2010) identified three types of benefits that customers expect when they engage in co-creation: 1) financial reward including monetary or non-monetary awards; 2) social benefits including increased customer status and self-esteem; 3) technology knowledge by engaging in a forum and development group under the firm's supervision: customers who participate in every stage of co-creation procedures gain technology knowledge from sharing ideas with others in the forum. Based on the uses and gratification framework, Nambisan and Baron (2009) confirmed four types of benefits that a customer can derive from being involved in a co-creation process in virtual environments: 1)

cognitive benefits which refer to better understanding and knowledge about a product and its usage; 2) social integrative benefits which refer to the development of relational ties among participants; 3) personal integrative benefits which refer to increases in reputation, status and self-efficacy; 4) hedonic benefits which reflect pleasurable experiences. Moreover, Füller (2010) identified some motivators that customer expect, such as: 1) intrinsic enjoyable task and curiosity (hedonic benefits); 2) making friends (social benefits); 3) skill development and wanting to gain more knowledge (cognitive benefits); 4) self-efficacy (personal benefits); 5) pragmatic benefits taking the form of solutions that fit customers' needs; 6) economic benefits taking the form of monetary reward.

## 2.4 Customer personality traits

Personality traits play an essential role in expecting and explaining individual behaviour (Murphy and Dweck, 2016). They are a mirror of what individuals value, prefer and are driven by (Harris and Lee, 2004). Personality traits have been defined as a person's feelings, thoughts, and manner which are special and continuous (Cervone and Pervin, 2015). It is known that personality factors can have a remarkable effect on customers' opinions and decision making (Bettman, 1979).

Over recent decades, researchers have sought to develop a methodical and comprehensive personality framework to clarify individual differences. In the history of psychology, personality traits have been classified based on the **three dimensions model**, which includes psychoticism, extroversion and neuroticism (Eysenck, 1952), and the **sixteen dimensions model**, which consists of warmth, intellect, emotional stability, aggressiveness, liveliness, dutifulness, social assertiveness, sensitiveness, paranoia, obstructiveness, introversion, anxiety,

open mindedness, independence, perfectionism and tension (Cattell, 1945). However, many criticisms have been made of Cattell's model (Eysenck, 1972). Eysenck (1972) stated that using this model leads to many psychometric faults and that it is not replicable. The **five factors model (big five)** has also been used to classify personality traits, which consists of extraversion, agreeableness, conscientiousness, neuroticism and openness to experience (Norman, 1963), and the **big six dimensions model (big six)** has also been used, comprising Conscientiousness, Honesty/Humility, Agreeableness, Emotionality, Extraversion and Openness (Saucier, 2009).

Since 1963, The Big Five Model has been one of the most extensively used personality measurements in psychology and business literature and the best model for the structure of personality traits (Barrick and Mount, 1991; Cobb-Clark and Schurer, 2012; Digman, 1990; Larson and Sachau, 2009; Paunonen and Ashton, 2001; Schermer et al., 2020; Tauni et al., 2020). In the early sixties, five basic traits had been determined (Tupes and Christal, 1992), comprising extroversion (sociability, talkativeness, assertiveness, ambition, confident, enthusiastic), agreeableness (cooperative, trusting, forgiving, tolerant, courteous and soft-hearted), conscientiousness (organised, reliable, self-disciplined, responsible), neuroticism (nervous, anxious, depressed, and insecure) and openness to experience (creative, curious, adventurous, sensitive, unpredictable and risk taker) (Barrick and Mount, 1991; Larson and Sachau, 2009; McCrae and Costa Jr, 1997).

While a huge number of studies have shown that the five factors offer an important framework for personality traits, prior research varies in the integration of personality traits, especially the Big Five Factors. Matzler et al. (2005) employed extraversion and neuroticism in their study which has been linked to the effective states. Extraversion and neuroticism – in testing feelings when watching advertising– have been utilised because these two aspects of traits were more

comprehensive than other factors (Mooradian, 1996). Vize and Lynam (2020) employed only agreeableness as giving the strongest connection to a diversity of behaviour related to the other five factors. Bowden-Green et al. (2020) used only extraversion and how it is connected to social media use.

Even though prior studies have shown that the Big Five is an essential paradigm for personality traits, debate arises related to whether these factors are adequate to describe individual behaviour (Block, 1995; Coelho et al., 2018; Paunonen and Ashton, 2001). It has been argued that limiting personality traits to five dimensions decreases predictive capability (Brown et al., 2002). Hence, previous studies have added constructs to the Big five in order to provide a fuller picture of an individual's personality (Coelho et al., 2018; Marbach et al., 2019, 2016; Mowen and Sujan, 2005). Moreover, researchers have proposed and used different personality factors which are appropriate to the context of their studies. Vázquez-Carrasco and Foxall (2006) used need for social affiliation, consumer relationship proneness and need for variety as personality traits while Cheema and Kaikati (2010) have studied the effect of the need of uniqueness as a trait on word of mouth and Dabholkar and Bagozzi (2002) have examined the moderating role of consumer traits (self-efficacy, inherent novelty seeking, need for interaction and self-consciousness) and situational factors on the relationships in an attitudinal model for technology-based self-service. In addition, Ibrahim and Najjar (2008) have employed social self-image congruity and customer relationship orientation as personality constructs.

Odekerken-Schröder et al. (2003) have claimed that many researchers have realised the significance of understanding what kind of consumers are prone to engaging in a relationship with the firm and they examined the impact of four personality traits, which are shopping enjoyment, social recognition, social affiliation and product category involvement, on

consumer relationship proneness. It has been found that customer are more prone to establish a relationship with the retailer (consumer relationship proneness) when their involvement is high for a specific product category while there is no effect found of shopping enjoyment, social recognition and social affiliation on consumer relationship proneness (Odekerken-Schröder et al., 2003). Product category involvement has been defined as “a consumer’s enduring perceptions of the importance of the product category based on the consumer’s inherent needs, values, and interests” (De Wulf et al., 2001, p. 37). Giese et al. (1996) stressed that consumers who are highly involved with a product category have substantially held needs, values and interests; reciprocally, consumers who are not very involved with a product category have weak (or absent) needs, values and interests. As a result, involvement plays a role in specifying consumer attentiveness and understanding procedures (Celsi and Olson, 1988). High-involvement customers look more for information and speak more about product category than low-involvement customers do (Mathwick and Rigdon, 2004; Wangenheim and Bayón, 2007). Looking for more information about products and spending more time choosing the correct one are the result of customer involvement with products (Celsi and Olson, 1988; Greenwald and Leavitt, 1984).

Previous studies have shown that an individual's decision making is affected by personality traits (Bettman, 1979; Sprotles and Kendall, 1986). Each consumer differs in terms of personality traits and therefore has different behavioural intentions from others (Gountas and Gountas, 2007). Being aware of traits that determine the customers' interests can assist firms to improve their strategies which lead to increases in the adequacy and efficacy of a shopping visit (Egan and Taylor, 2010; Odekerken-Schröder et al., 2003).

### 2.4.1 Shopping enjoyment

Shopping enjoyment can be seen as an enjoyable experience that a consumer derives from shopping activities (Mohan et al., 2013). Individuals do not do shopping just to attain their needs but also to fulfil hedonic motivations such as shopping for stress relief, the desire to keep up with trends, adventure seeking, the need for shopping enjoyment and socialising with other, the enjoyment that derives from buying goods for others, and enjoying buying a product which is on sale (Horváth and Adigüzel, 2018).

Prior research has stated that customers are attracted by non-utilitarian motives which are related to the need for a pleasurable shopping experience (Bhatnagar and Ghose, 2004; Forsythe et al., 2006). Six motivations were identified among shopping lovers: hunting for the aesthetics, relief of monotony and escape from routine, discovering new products and shops, enjoyable state of absorption, acquiring new information about products and shops and social affiliation (Bloch et al., 1994).

Shopping enjoyment can be characterised as the fundamental enjoyment that consumers gain from the shopping process itself (Cox et al., 2005). It has been found that individuals who are entertained by shopping spend a longer time in the store which causes an increase in spending (Donovan et al., 1994) and tend to be less conventional, more creative and more strongly engaged in information seeking (Shannon and Mandhachitara, 2008a). Moreover, Westbrook and Black (1985) found that shopping lovers get a greater level of entertainment and satisfaction from doing immediate shopping than shopping based on a purchasing list.

### 2.4.2 Social recognition

Social recognition can be defined as a personalised customer trait representing the desire to be well-respected and appreciated by others (Odekerken-Schroder et al., 2003). Rogers and Ashforth (2017) stated that respect meets humans' need for respect and status. Status and respect are two sides of the same coin, so the two concepts are equivalent (Blader and Yu, 2017). Status and social recognition are given as social exchange procedure aspects; consumers give status to others with the goal of getting help in reaching their own goal (Anderson et al., 2015)..

Based on Maslow's pyramid of human needs (Maslow, 1943), seeking to be appreciated and socially recognised are considered to be major, essential human needs (Helm et al., 2013). Status seeking includes the need to gain respect, admiration and be different from others (Anderson et al., 2015). Some individuals participate in a relationship with the product provider in order to look for social recognition and human connection (Forman and Sriram, 1991). Dorotic et al. (2012) regard social recognition and social status as symbolic benefits the provider can give the consumer. Bloemer and Dekker (2007) stated that social recognition is positively associated with customer satisfaction. Engaging in the co-creation process grants customers social status reward which strengthens their image among peers (Etgar, 2008). Therefore, status and social recognition seeking could be valuable motivational factors for engagement (Holbrook, 2006).

### 2.4.3 Social affiliation

Social affiliation is defined as a preference to be in contact with others as well as to be involved in relationships (Cheek and Buss, 1981). Price and Arnold (1999) have referred to social affiliation from a commercial friendship perspective as sociability, and this has been viewed as

participation in friendship formation. Extraverts are usually referred to as having high sociability which means they need to have individuals to talk to and have a thirst for physical activity, like laughing and engaging in social interaction. In contrast, an introvert is referred to as a quiet individual who prefers to read a book rather than socialising with others (Hills and Argyle, 2001).

Raciti et al. (2013) claimed that the more customers affiliate with others, the more comfortable they feel with or the more they engage with the service and the more they will be satisfied with the relationship. Individuals with a high need for affiliation are more likely to engage and participate with various firms and they will have more opportunity and concern for engaging in and improving deep, committed and significant relationships with those firms (Marín and de Maya, 2013).

Social affiliation can be developed through maintaining a relationship with the firm which results in a strong relationship of this psychological trait with satisfaction, WOM and price sensitivity (Bloemer et al., 2003). Prior studies have determined various social factors of the firm-customer relationship, such as social affiliation, interpersonal communication, reciprocity, assurance, family atmosphere, empathy and friendship. These aspects have contributed to positive outcomes comprising word of mouth, loyalty and willingness to purchase (Altinay et al., 2014; Bloemer et al., 2003; Klemz and Boshoff, 2001).

#### **2.4.4 Preferential treatment**

An underlying meaning in the idea of relationship marketing is to focus on certain customer and client selectivity, based on the idea that some individuals need to be treated differently

(Sheth and Parvatiyar, 1995). Peterson (1995) argued that special treatment enables a seller to fulfil an individual's basic need to feel important and special.

Gwinner et al. (1998) identified two factors of preferential treatment: economic and customisation. The economic component consists of product and service rewards, complimentary products and service upgrades, gift certificates, and discounts while the customisation component consists of extra attention and specific services not available to regular customers. Customers who recognise their value are more likely to request and need special privileges; as customer become more educated and proficient, they might have a sense of entitlement for special treatment in return for their engagement with the firm (Lacey et al., 2007). Entitlement is similar in terminology to preferential and special treatment (Boyd III and Helms, 2005, p. 274). Previous psychology studies have found that entitlement is significantly associated with extravert tendencies, suspiciousness, tenseness, anxiety and emotional intensity (Emmons, 1987, 1984). With the passage of time, preferential treatment might lead some customers to take on a personality trait of being unique and different from others, consequently making them feel entitled to such treatment (Lacey et al., 2007). However, the uniqueness literature which gives the most well-known perspective in consumer behaviour and psychology has confirmed that an individual suffers from a negative emotional reaction when they feel identical to others (Berger and Heath, 2007; Fromkin, 1970; Tian et al., 2001).

Strong customer-firm relationships (Berry, 1995), spreading positive WOM and increasing purchase intention are some of the results of preferential treatment (Lacey et al., 2007). Customers who strive to get special status and treatment might want to be admired by others and want them to recognise their higher status, which can lead to boosts in self-esteem and increased self-evaluation (Drèze and Nunes, 2009), as well as higher satisfaction about being

different from others (Berger and Heath, 2007) and feelings of superiority (Henderson et al., 2011).

#### **2.4.5 Personalisation**

Personalisation is defined as a customer's understanding of the extent to which a firm can interact and be involved with a customer in a personal and warm way (Mittal and Lassar, 1996). In the 1950s, sociologist Gregory P. Stone determined four traits of the shopper: economic, personalising, ethical, and apathetic. Personalising shoppers are defined as shoppers who demand valuable, close, strong and personal relationships with store employees and want to be treated in a personal way (Stone, 1954). It has been found that the close and personal customer-firm relationship boosts customer satisfaction and loyalty (Guenzi and Pelloni, 2004).

Similar to the personalising shopper, Larson and Sachau (2009) stated that agreeable people who are likely to be caring, warm and collaborative place a high importance on interpersonal relationships. However, Watson and Clark (1997) and Mooradian and Swan (2006) stated that extravert individuals, who tend to be sociable, outgoing and active, prefer interpersonal relations.

The social sides of customer-firm relationships are always critical (Czepiel, 1990). Darden and Dorsch (1990) stated that social interaction could be the main motivator for some clients to visit a store. A number of marketing studies have identified social relationship benefits such as friendship (Price and Arnould, 1999), feelings of familiarity (Berry, 1995) and engaging in friendly communications (Crosby et al., 1990).

These five traits have been chosen in this study because they are comparatively different from one another, decreasing the potential for repetition among customers' personality traits.

## 2.5 New product success

Products are the essential means by which firms attain their goals. As a consequence, new product development is viewed as one of the most valuable tasks in business (Stockstrom and Herstatt, 2008). An organisation can be rewarded by a new product development project with competitive advantage and make a great improvement to its business (Huang et al., 2004). New product development performance can be introduced as "the success of new product development efforts" (Troy et al., 2008, p. 136); this term comprises both product development performance procedures and new products and covers three success factors which are: marketing performance (market share, financial); product effectiveness (product, advantage and singularity); and production results (cycle time, production notability).

Various traits of products have been found to be associated with product success and failure, such as decreased cost, increased quality, product singularity and performance supremacy (Yap and Souder, 1994; Zirger and Maidique, 1990). Along the same lines, eight traits for successful new products were described by Hart (1993): technological accomplishment, competitive achievement, establishing new markets, reducing product costs, gaining experience and boosting profit and sales. Market traits have also been found to affect new product success including the possibility for market expansion in the product area, competitiveness (how many competitors there are in the market), the importance of the purchase process for clients (the new product which represents the importance of purchasing for the client is more successful than product least important) (Yap and Souder, 1994).

The new product process passes through several stages, starts as ideas then moves through checking, venture definition and business analysis steps and lastly into product improvement and development. Those early stages are upstream activities. After product improvement and development, the product gets through the commercialisation stages which are viewed as downstream stages of the process, product examination, test markets, experimental production and eventually the market product launch (Cooper, 1988). These structured processes of new product development have a positive effect on new product success (Cooper, 1994). In addition, a clear and shared vision of the business is important for producing new products successfully (Lynn et al., 1999). There are two important kinds of information that successful new product development requires: information about individuals' needs and information about how to meet these needs (Thomke and Von Hippel, 2002). The development procedure for collecting information is to decrease uncertainty, while uncertainty is defined by Galbraith as "the difference between the amount of information required to perform a particular task and the amount of information already possessed by the organization" (1973, p. 5). The more uncertainty about marketing and technology is decreased at the upstream stages in the new product process, the fewer errors happen during the implementation of the project and the higher the probability of product development success (Song and Parry, 1996; Stockstrom and Herstatt, 2008). Four kinds of uncertainty regarding NPD have been classified by Moenaert and Souder (1990): customer uncertainty, which refers to unrealised consumer requirements; technological uncertainty, regarding poor awareness of technological solutions; competitive uncertainty, referring to lack of information about the competition, and resource uncertainty relating to lack of information of the resources required to create a new product. All these types of uncertainties must be decreased by the new product development process.

Capitalising on external knowledge is essential for producing successful new products (Peng et al., 2014). Clients are considered as the critical external knowledge resources and required for more engagement in NPD processes (Menguc et al., 2014). By engaging them in these procedures, customers' desires and needs can be easily captured and facilitate the production of efficient client-oriented products (Wang et al., 2016). The closeness between customer and firm during the development procedures is considered to be a key success component of new product development (Terwiesch and Loch, 1999). Customer knowledge development – which is the development of an understanding of the customer's desire in the prelaunch stages of NPD and is emergent in that newness at each stage (e.g. ideation) occurring from customer interaction – can be classified as the key to creating successful new products (Joshi and Sharma, 2004). The current literature highlights the importance of information exchange between customers and firms, so the close relationship has become more essential during NPD, because it boosts the level of trust between them, lowers the level of risk for the organisations (Jespersen, 2012) and leads to successful new products (Ozer, 2004). Usually, in the business market, the motivation is for the supplier to ask their customer to engage in the early stages of the NPD process, but lately, customers have started to realise the importance of their role in participating in the new product development process instead of being just negative buyers in order to minimise costs and develop product performance. As a result, both customers and firms are recognising the benefits of and are encouraging close customer involvement in firms' NPD processes to create profitable new products (Fang et al., 2008). Chang and Taylor (2016) found that engaging customers with the organisation in the early stages (idea generation and launch stages) is an efficient way to speed up new product development procedures, which results in new product success. Moreover, by engaging customers more effectively in NPD, new product ideas can be easily collected and evaluated by them, which increases the probability of new product success (Hoyer et al., 2010). Moreover, engaging the customer helps

in determining the design troubles early, choosing ideas efficiently, decreasing design changes in the downstream stages of product development procedures and producing innovative ideas (Lau et al., 2010) which increase customer satisfaction (Tan and Tracey, 2007).

Involving customers in those processes can create customer excitement and positive WOM, higher satisfaction and boost loyalty which have a positive effect on new product success (Szymanski et al., 2007). Since clients can be involved in various roles in NPD such as product testing and persistent product development and customer involvement is considered a prerequisite for improving new product performance (Feng et al., 2014). However, it has been noticed that successful new product development depends largely on understanding the clients' needs and improving products to fulfil those needs (Hauser et al., 2006b), but the customer needs are often difficult and might not be recognised through traditional market research methods (Von Hippel, 2005). The inability to assess and satisfy the customers' needs is usually the main reason for product failure (Cooper and Kleinschmidt, 1995; Menguc et al., 2014; Ogawa and Piller, 2006). In addition, Calantone and Cooper (1979) found that in 13% of product failure they examined, the reasons behind the failure are the likeness and probably the fact that a better product was produced by competitors at the same time.

The internet provides an appealing environment for new product development studies. With the importance of the internet, many researchers have distinguished internet usage in new product development; it can be utilised in testing new product types (Dahan and Srinivasan, 2000), decreasing new product development costs (Croom, 2001), gathering competitive intelligence (Teo and Choo, 2001) and increasing new product awareness (Bickart and Schindler, 2001). The internet can foster the integration of the new product development process by granting individuals in different departments inside the organisation access to

shared information, facilitating organisations to exchange ideas and enabling them to communicate easily with customers (Afuah, 2003). This is due to many reasons, for example, the internet's ease of use and its low cost. Moreover, the internet can assist an organisation to determine an appropriate supplier and identify a predictable cost in a short period of time. Other advantages of using the internet in the NPD process are that it can help organisations to reach global markets easily while they may otherwise be difficult and costly to reach (Yeoh, 2000). As a result, by using the internet, firms can extend their market size and increase the success of their new products (Ozer, 2004).

In online platforms, discussion participants can acquire product information, learn overall information about a new product and foster a relationship with others; thus, engagement in online platforms probably leads to increased product purchases and enhances engagement in community-related activities (Bickart and Schindler, 2001). Knowledge of customers' needs contributes effectively to producing successful new products (Noordhoff et al., 2011). In addition, the ability to access rich information that clients provide increases the companies' absorption and understanding of the needs and problems of the client and thus is considered a crucial factor for the success of the product (Gruner and Homburg, 2000). Customer involvement has been introduced as a "knowledge provision phenomenon whereby customers share their needs – and solution-related inputs in the firm's NPD process" (Chang and Taylor, 2016, p. 48).

In order to gather and utilise appropriate market information, the organisations should enhance and market their product with the assistance of the internet, which helps them launch their new products and advertise them in distant locations easily, since the internet covers a wide area to facilitate the exchange of information with people and promote the largest amount of

participation (Ozer, 2000). In the internet world, the ideas can be collected depending on customers' needs, solving customers' problems, comprehensive market research and new market trends (Goldenberg et al., 2001) Moreover, at the stage of idea generation, just a small number of ideas become real products following the long new product development procedures. The main feature in assembling ideas efficiently is in collecting the largest possible number of ideas from various numbers of sources (Krishnan and Ulrich, 2001).

Cooper et al. (1999) pointed out that the absence of management is one of the reasons for new product failure. He stated that top management's rather passive attitude might negatively affect a new product, for example if a manager insists on a new product team developing a product faster, modifying the priorities of the project in a continuous way and requesting a lot of presentations and reports on the new products. However, Teo and Choo (2001) found that the information collected from the internet positively affects a managers' decision quality. When the new product's managers make a valuation related to customers' ideation about new products by utilising the high-quality information gathered from the internet, their decisions are more reliable, thus leading to a successful new product. Furthermore, Avlonitis and Karayanni (2000) stated that the internet had a great influence on new product management activities in terms of, for example, discovering clients' needs easily and cooperation in product development or trends in local and international markets.

### **2.5.1 New product success dimensions**

Every researcher has utilised various measurements for outlining success. New product success is a multidimensional concept; three dimensions were identified by Cooper and Kleinschmidt (1987): financial performance, opportunity window and market impact. Financial performance

describes the total product financial success and this measure consists of relative revenues and sales, meeting revenues and sales goals, profitability level and payback term. Opportunity window captures the extent to which the new product creates new opportunities for the organisation with regard to new groups of products and new market areas for the organisation, in other words, the extent to which the new products offer new opportunities. Market impact indicates the effect of the product in both the internal and external market, relative sales and achieving sales and revenue goals.

According to Hart (1993), financial and non-financial measurements have been utilised by researchers to evaluate the success of new product development. Financial measures can be profit, asset, sales, capital and equity based. In contrast, non-financial measure can relate to design, activity, market, technological and commercial aspects. She classified three project success dimensions: "beating the competition technologically", "beating the competition to market", and "providing a technological breakthrough". Beating the competition technologically captures a success profile dependent on winning a technological race with competitors. Meanwhile, beating the competition on price describes the power of lower production costs and beating the competition to market relates to meeting goals and establishing a new market. Thus, this success dimension seems to be cost-lowering and lead to price competitiveness. The third dimension, which is "providing a technological breakthrough", comprises beating the competition to market, revenue generation and achieving goals.

Griffin and Page (1993) suggested 16 success measures which are classified under four dimensions (three at product level and one at firm level). The four dimensions were customer acceptance measures, financial performance measures, product or technical measures and firm

level measures. They argued that the utility of project success standards is based on a firm's new product strategy and the most used project level standards were customer satisfaction, met profit objectives and customer acceptance. Moreover, four dimensions for defining the success of a new product were named by them as meeting design goals which capture the signed contract with clients, the benefits to the clients from the business's end-product, which refers to evaluating the success in achieving customer satisfaction, benefit to the developing firms in the short term (profit level) and in the long term (reputation improvement and creating new markets and productivity lines) and the benefit to the defence and national infrastructure achieved by the project (Lipovetsky et al., 1997).

Three dimensions for delineating new product success were identified by Chang and Taylor (2016), including new product operational performance referring to the extent of the effectiveness and efficiency of the product development (innovativeness, speed of market). Meanwhile, new product financial performance captures the outcome of the economic return following the new product launch (new product sales and profit) and marketing performance describes the marketing-oriented side, for example customer satisfaction and loyalty to the client-organisation relationship.

**Table 2-3 New product success dimensions**

| <b>Researchers</b>                                                                                                              | <b>Dimensions</b>                                                                                            |
|---------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Cooper and Kleinschmidt (1987)<br>Chang and Taylor (2016)<br>Griffin and Page (1993)<br>Hart (1993)<br>Storey and Larbig (2018) | <ul style="list-style-type: none"> <li>• Financial performance</li> </ul>                                    |
| Chang and Taylor (2016)<br>Lipovetsky et al. (1997)                                                                             | <ul style="list-style-type: none"> <li>• Benefit to the customer</li> <li>• Marketing performance</li> </ul> |

|                                                                                            |                                                                                                                                                           |
|--------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Griffin and Page (1993)<br>Allen et al. (2018)<br>Cooper (2019)                            | <ul style="list-style-type: none"> <li>• Customer acceptance</li> </ul>                                                                                   |
| Hart (1993)<br>Cooper and Kleinschmidt (1987)<br>Lipovetsky et al. (1997)<br>Cooper (2019) | <ul style="list-style-type: none"> <li>• Beating competition to market</li> <li>• Opportunity window</li> <li>• Benefit to the developing firm</li> </ul> |
| Chang and Taylor (2016)<br>Griffin and Page (1993)                                         | <ul style="list-style-type: none"> <li>• Operational performance</li> <li>• Product level measure</li> </ul>                                              |

## 2.6 Theoretical foundation

There are five theories which have been employed in articles to emphasise the importance of customer engagement from a theoretical perspective: 1) Relationship Marketing theory, 2) Social Exchange theory, 3) Uses and Gratification theory, (4) Social Identity theory, and (5) Regulatory Engagement theory. Relationship Marketing theory(RM) pointed out that "all marketing activities [are] directed toward establishing, developing, and maintaining successful relational exchanges" (Morgan and Hunt, 1994, p. 22). According to Berry (1980), the concept of relationship marketing has protruded and been considered as a process to boost a long-term relationship between a firm and its customers. RM has been adopted in previous studies to explain the impact of customer engagement on distinct relational consequences such as trust, loyalty, satisfaction and commitment (Brodie et al., 2013; Vivek et al., 2014, 2012). Moreover, Vivek et al., (2012, p. 129) have stressed that customer engagement is the "expanded domain of relationship marketing".

Social Exchange Theory (SET) (Blau, 1964) is one of the widely employed theoretical frameworks for clarifying the relationships between customers and firms (Cropanzano and

Mitchell, 2005). SET presumes that individuals reciprocate positively toward a source that gives them benefits in a way that leads to beneficial outcomes for both parties (Rhoades and Eisenberger, 2002). Reciprocity has been featured as a prominent interpersonal norm of marketing relationships as it results in personal well-being, therefore, providing motivation to improve and sustain relationships (Pervan et al., 2009). SET asserts that customers engage in a firm's activities to estimate the concrete or symbolic benefits linked with brands (Thibaut, 2017). Zhu et al. (2010) stated that individuals are more willing to engage with the social environment for mutual benefits. Actors expect to exchange positive ideas and feelings towards an object (e.g. firm) in exchange for getting particular benefits from the relationship with the firm (Pervan et al., 2009). Participation is dependent on whether the predicted benefit is attainable with sensible effort (Füller et al., 2006). Consequently, the interaction should be profitable and rewarding for each individual participating in the social exchange (Bagozzi, 1975). Continuity of interaction with individuals is based on their belief that they will get benefits from sharing (Hsu and Lin, 2008).

Uses and Gratification theory (UGT) (Katz et al., 1973) holds the view that individuals utilise media channels for their own sakes – there is a personal perception that the result of engaging in media usage relates to gratification of an individual's psychological needs. UGT was originally developed and utilised by communication researchers to understand the motivation behind selecting and using various media channels (McQuail, 1987). McQuail (1987) classified four categories of gratification: diversion, personal relationships, personal identity and surveillance. Recently, UGT has been employed as a theoretical foundation in different domains; Muntinga et al. (2011) adopted UGT and found that customers engage with social media for personal identity, integration and social interaction, information, empowerment, entertainment and remuneration. In addition, 11 drivers of engagement with online brand

communities were determined: brand influence, brand passion, connecting, helping, like-minded discussion, rewards (hedonic), reward (utilitarian), seeking assistance, self-expression, up-to-date information, and validation (Baldus et al., 2015).

Social identity theory (SIT) relates to how a person has a feeling of belonging to an appropriate social group (Henri and Turner, 1986). SIT confirms that an individual's self-concept is acquired from their familiarity in terms of their membership in different social groups alongside the emotional importance of that membership (Tajfel, 1982). In other words, individuals commonly pursue affirmative self-esteem, and such esteem can be acquired from membership of social group, and social identity is sustained or enhanced through in-group and out-group comparison (Van Dick, 2004). According to Stets and Burke (2000), a social group is a group of people who have a common social identification or classify themselves as members of the same group. Additionally, the identification concept originally came from social identity theory (So et al., 2014). In a social comparison procedure, individuals who are similar to the self are classified with each other in the same group which is named the in-group, while individuals who vary from the self are classified as the out-group (Stets and Burke, 2000).

Regulatory engagement theory (RET) defines engagement as a state of being engaged, occupied, completely absorbed or engrossed in a particular thing such as sustained attention, producing the outcome of a specific attraction or repulsion force. The value of experience, either positive or negative, is the attraction strength to or repulsion from the engagement objects (Higgins and Scholer, 2009). Therefore, experience value is viewed as an attitudinal factor and considered as an outcome of the engagement process, clarified by basic differences such as good or bad, like or dislike (Eagly and Chaiken, 1995). The more engaged customers are with reaching or repelling a goal, the more value is added to or deducted from it (Higgins and

Scholer, 2009). RET postulates that positive engagement has a strong impact on value experience through motivational power (Higgins, 2006).

### 2.6.1 Social exchange theory (SET)

This research is developed based on social exchange theory (SET) and relationship marketing (RM) which is consistent with Hollebeek's (2011) proposition that CE can be seen through the lens of SET and RM. SET has been commonly adopted in previous research on customer engagement in different research fields (Assiouras et al., 2019; Harrigan et al., 2018). Social exchange theory considers that all human behaviours are ultimately self-interested (Blau, 1964). SET is relevant to illustrating CE, as it supports the exchange that occurs between customers and firms (Pansari and Kumar, 2017). Moreover, SET is one of the most widely used theoretical frameworks for clarifying the relationship between a customer and a firm (Cropanzano and Mitchell, 2005). SET is based on an internal procedure of cost-benefit estimation in which the individuals engage and participate to determine benefits they are likely to obtain from taking part in a relationship (Wikström, 1996). In addition, SET underpins client exchange because clients assess the benefits versus the costs of their interaction with the firm (Harrigan et al., 2017). Zhu et al. (2010) stated that individuals are more willing to engage with the social environment for mutual benefits. Actors expect to exchange positive ideas and feelings towards an object (e.g. firm) in exchange for getting particular benefits from the relationship with the firm (Pervan et al., 2009). SET promotes the concept of investment and assumes that clients evaluate the costs and rewards of engaging or not engaging in a relationship with a brand. For instance, customers engage in a firm's activities to estimate the concrete or symbolic benefits linked with the brands (Thibaut, 2017). Moreover, customers compare rewards and costs to assess their expected value from an exchange (Blau, 1964).

Hollebeek (2011) has pointed out that a customer is said to be associated with the brand when he finds equality and equity between what he gives and what he takes; thus, he dedicates personal resources (cognitive, emotional and physical) on the basis of the benefit he seeks from interaction with the firm (Higgins and Scholer, 2009). Customers who devote their attention and enthusiasm to engagement activities expect to be rewarded by the firm through, for example, a product-related offer (Foa and Foa, 1980).

SET holds the view that as individuals interact (e.g. customer-firm), they feel the need to return the help of the other party (Blau, 1964). This is on the basis that “all relationships have ‘give and take’” (Kaynak and Marandu, 2006, p. 229). Justice principals and reciprocity are the essence of this theory (Sin et al., 2005, pp. 178–188). Reciprocity indicates the feelings related to commitment to reciprocate, when an individual realises that he/she gets benefits from another individual's action (Tung et al., 2017). Individuals meet their needs through resource exchange. Through social interaction and communication between parties, individuals can gain their desired resources from one another (Foa and Foa, 1975). Those resources can be either tangible or nominal, such as love, money, information, recognition, products and services (Lin et al., 2017).

Applying social exchange theory to the co-creation framework, it is sensible to anticipate that the customer will have a feeling of obligation in the form of extra role behaviours (Assiouras et al., 2019). Based on SET, two dimensions have been described as co-creation behaviour: participation and extra-role behaviour. Participation behaviour includes information finding, information sharing and responsible behaviour, while extra role behaviour consists of feedback, advocacy, helping, and tolerance. Therefore, the customer-firm relationship makes customers

feel obligated to join activities where this relational exchange rewards each participant (Roberts et al., 2014).

According to Blau (1964), the rewards for customer engagement behaviour can be intangible (e.g. respect, status and special treatment) or tangible (e.g. money, discounts). Therefore, customers might provide some feedback to the firm about either the positive or the negative side of the product provided because they would like to receive a better product, enjoy communicating with others or would like to receive special treatment from the company (e.g. intangible reward). From a social exchange theory perspective, customer engagement can lead to benefits for clients because CE can meet clients' needs; thus, clients are ready to participate and invest their effort and time in their relationship with the firm. Personality traits are inserted into this study to explain whether personality factors such as shopping enjoyment, social recognition, social affiliation, preferential treatment and personalisation have an impact on the social exchange process characterised by customer engagement and customer co-creation and moderate the relationship between these two constructs. Engaging a customer in the co-creation process can give clients with status and social esteem rewards (Etgar, 2008). Customers interact with the organisation in online platforms and engage in the co-creation of new products because they expect that they will be rewarded (Füller, 2010). According to SET, firms begin interpersonal interaction with customers by using information and services as tangible and intangible resources (Foa and Foa, 1975), then firms provide customers with benefits and start a social exchange process which results in economic and social benefit for both actors involved in this process (Lambe et al., 2001). Reciprocity is the most common rule for such interaction; for example, each participant predicts that they will be rewarded (tangibly or intangibly) in return for the time and effort given (Wieseke et al., 2014). The reciprocity of the theory of social exchange could be confirmed through suggestions provided to the company, customers

might provide suggestions, ideas and feedback on the service rendered because the firm meets their expectation and satisfies their needs and they feel satisfied by the experience (e.g. intrinsic motive). Helping the firm by engaging in the new product development process (co-creation) might be another act of reciprocity toward the organisation which can have intrinsic factors (e.g. expect to get social recognition from the engagement with the firm). Customers who get high value from the experience with the firm merely return the favour or maintain the relationship with the firm (Cropanzano and Mitchell, 2005). Assiouras et al. (2019) have claimed that customers who are feeling socially recognised and treated in a personal and special way share and provide positive feedback.

The interactions between firms and customers are seen as an exchange. If customers perceive that the firm is providing helpful information and a beneficial service, striving to build a strong relationship with them, and seeking to satisfy their needs, such as the need for enjoyment, recognition, affiliation, special treatment and a close relationship, then customers will reciprocate by showing positive behaviours toward the firm, attaching themselves to the firm and thus engaging in the co-creation process. Customer engagement encloses social exchanges based on the mutual benefit from a customer-firm relationship which shows that information, affiliation, and social recognition and status are more significant to customers than financial resources and outcomes (Blau, 1964; Foa and Foa, 1980).

## 2.7 Chapter summary

In the early 1990s, the engagement concept was described by Kahn (1990) from a psychological perspective. In the middle of this century, the engagement concept has grown in a different field. It has attracted academics and marketers to explore how can they change marketing by satisfying their customers' desires, understanding their preferences and engaging them in NPD processes. In recent years, new opportunities have opened up for firms to interact with customers in a cost-effective manner and easily engage them at different stages of innovation. CE has resulted in some benefits for customers and corporations including satisfaction, commitment and loyalty among customers and increased sales and profits for firms.

The customer is an important resource in the co-creation process. The firm may benefit from this resource by involving customers in the procedures such that ideas, knowledge and skills can be provided by customers, which is essential for new product success. A customer's role in co-creation value is divided into upstream (resource, co-producer) and downstream stages (buyer, user). Some benefits that clients expect when engaging in the co-creation process include financial, social and cognitive.

Producing new products successfully is the main goal for every organisation. The close relationship between a customer and firm increases the trust between them and decreases the risk of new product failure; the reasons are that engaging customers in the early stages of the NPD process speeds up those procedures, helps the firm to discover design errors early, choose ideas effectively and produce innovative products. However, the difficulty of determining and satisfying the clients' needs is one reason for the failure of new products.

In the next chapter, the conceptual framework and hypotheses from the previous literature review will be developed in order to understand the integration of the customer in the co-creation process. This involvement is influenced by customers' personality traits (personalisation, shopping enjoyment, social recognition, social affiliation and preferential treatment) and consequently, leads to new product success.

## 3 CONCEPTUAL FRAMEWORK

### 3.1 Introduction

Drawing on SET and the service-dominant logic and based on the theoretical understanding of the concepts presented in the previous chapter, [Figure 3.1](#) represents the research model. It explains the proposed hypotheses between the constructs. In addition, the proposed relationships between those constructs are discussed in the next sections. Following the research objectives, the framework shows the relationship between CE and co-creation which is affected by five customer personality traits as moderators which lead to new product success. This structure allows me to explain the impact of customer personality traits as important variables for the relationship between CE and co-creation. At the beginning of this chapter, the constructs will be defined and then the hypothesised relationship between them will be explained. The hypotheses regarding the relationships between constructs are presented at the end of each section.

**Table 3-1 Definitions of the main constructs**

| Construct                   | Definition                                                                                                                                                              | Reference                           |
|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| <b>Customer engagement</b>  | Customer engagement is defined as "a customer's personal connection to a brand as manifested in cognitive, affective, and behavioral responses outside of the purchase" | So et al. (2016, p. 2)              |
| <b>Customer co-creation</b> | "a collaborative NPD activity in which customers actively contribute and/or                                                                                             | O'Hern and Rindfleisch (2017, p. 4) |

|                               |                                                                                                                                                                                                    |                                  |
|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|
|                               | select the content of a new product offering"                                                                                                                                                      |                                  |
| <b>Shopping enjoyment</b>     | A personalised customer trait represented in a tendency to find shopping experiences more pleasurable and to enjoy them more than others                                                           | Odekerken-Schröder et al. (2003) |
| <b>Social recognition</b>     | A personalised customer trait representing the desire to be well-respected and appreciated by others                                                                                               | Odekerken-Schröder et al. (2003) |
| <b>Social affiliation</b>     | A personalised customer characteristic represented in a tendency to affiliate with others and to prefer being with people to staying alone                                                         | Cheek and Buss (1981)            |
| <b>Preferential treatment</b> | Giving selective customers elevated social status recognition and/or additional or enhanced products and services above and beyond standard firm value propositions and customer service practices | Gwinner et al. (1998)            |
| <b>Personalisation</b>        | A customer's understanding of the extent to which the firm can interact and be involved with its customer in a personal, close and warm way                                                        | Mittal and Lassar (1996)         |

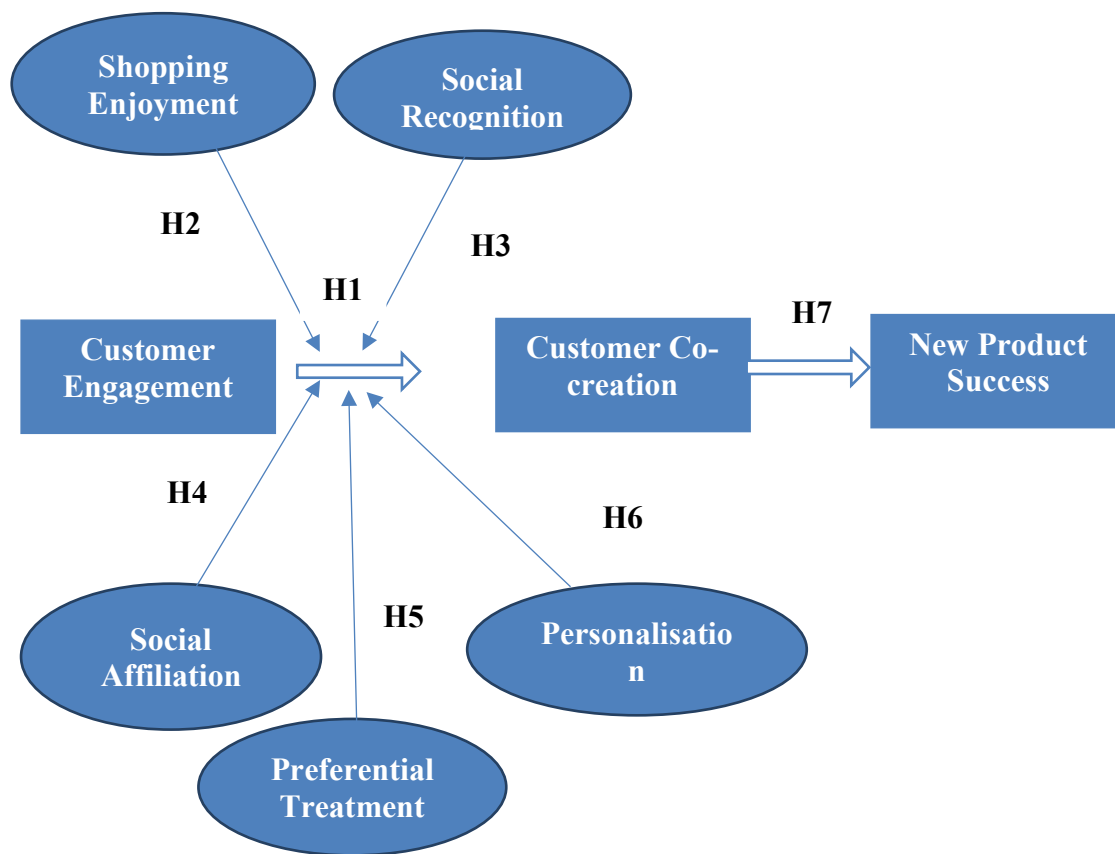
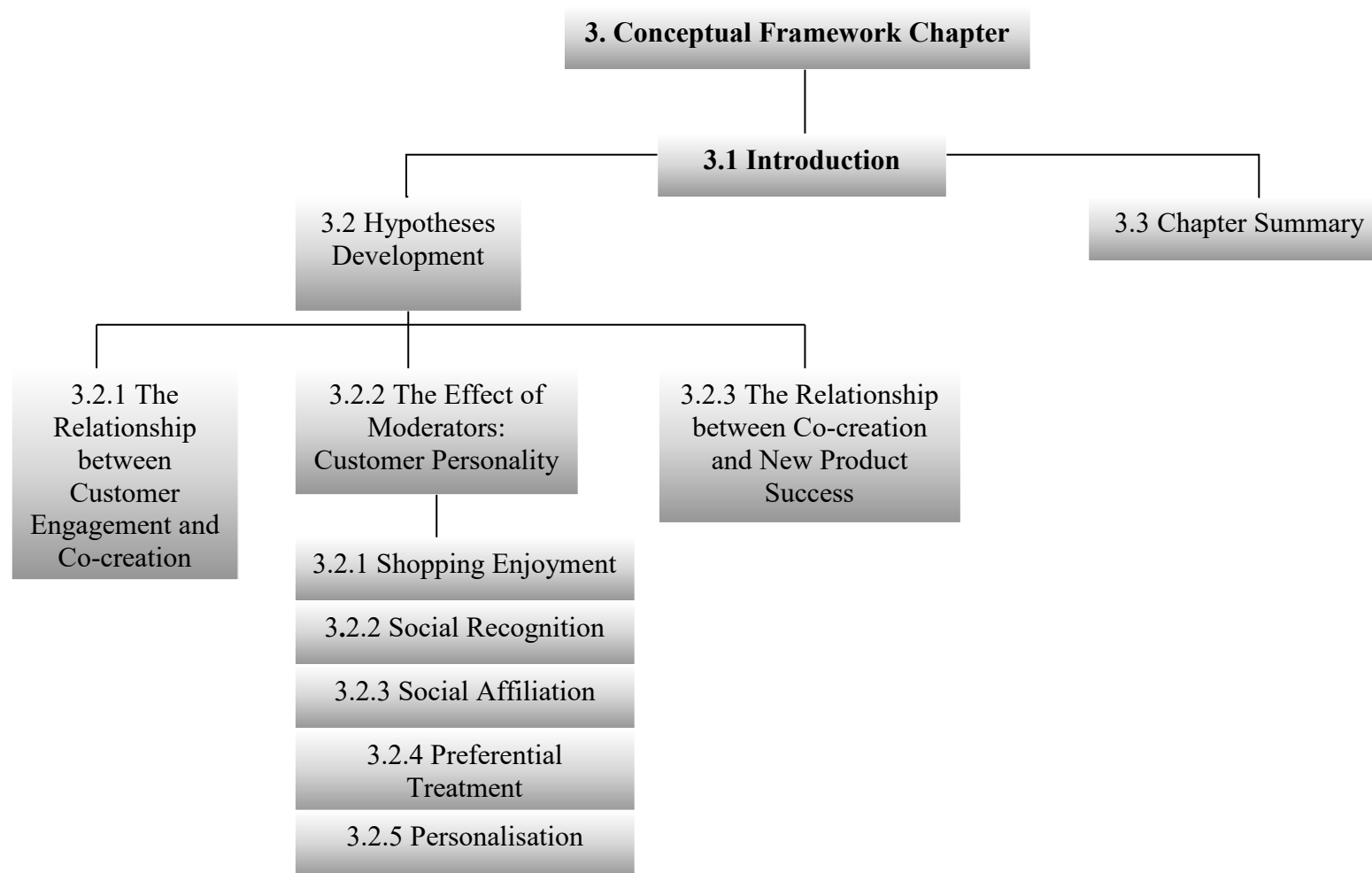


Figure 3-1 Research model

### Structure of the chapter



## 3.2 Hypotheses development

### 3.2.1 The relationship between customer engagement and customer co-creation

At the present time, customers are viewed as an important source of competitive edge (Prahalad and Ramaswamy, 2000). Two competitive advantage resources can be generated from the company when involving customers in innovation activities (Hoyer et al., 2010); the first one is productivity which is gained from efficiency such as by lowering the risk of failure (Prahalad and Ramaswamy, 2004) and decreasing new product development costs (Grewal et al., 2006); the second one is a benefit that can be reached through the co-created product's effectiveness, for example, in terms of willingness to pay and purchase intention (Franke et al., 2009). In value co-creation, clients are playing an active role and cooperating with the company to create value (Kohler et al., 2011). It involves engaging customers effectively in idea generation and collaborating with them in sharing knowledge, ideas and information and considering them as co-creators to support the firm (Gruner et al., 2014).

The firms may benefit from their customers as resources by engaging them in creating value processes where the customers provide knowledge, skills and ideas that are important for NPD procedures (Hoyer et al., 2010). Moreover, Nambisan (2002) pointed out that customers can be engaged not only in the idea generation stage but their role goes beyond that to make them joint creators of value with the firm in providing feedback, engaging in product design and continuous development. In general, engaging customers in the upstream stage of new product development can save time and cost and also decrease the failure rate of new products (Hoyer et al., 2010).

Past research into new product/service development suggests that engaging with customers can offer a more exact and full estimation of customers' needs and can improve the customers' understanding of the new product, which as a result, can lead to the development of a better product/service (Alam, 2002). By including customers more strongly in NPD procedures, new product ideas can be created which are probably to be assessed by clients which, in turn, improve the quality of products, decrease risk and increase the possibility of creating successful new products (Hoyer et al., 2010). Clients always increase corporate success by helping firms know their preferences and by being engaged in the process of knowledge development (Joshi and Sharma, 2004). The engagement provides customers with cognitive, personal integrative, hedonic, social and financial benefits which shape the actual reasons for the involvement (Kohler et al., 2011). The findings of Nambisan and Namibian's (2008) study disclosed that the clients' experience and their beliefs about the benefits gained from their involvement with a firm strongly affect their continued engagement in virtual communities. Therefore, the firm can capitalise on the customer to innovate and work cooperatively in a cost-effective manner (Prahalad and Ramaswamy, 2004). Recent studies have found that customer participation has a positive impact on the innovative activities of a firm (Anning-Dorson, 2018, 2016).

Communication and interaction with a customer is considered to be one of the causes of new product success (Gruner and Homburg, 2000). In addition, communication is an important element in a company's ability to monitor value co-creation (Payne et al., 2008). The practitioners encourage clients to share their information, ideas and preferences but it used to be difficult to collect information through the traditional marketing process (Von Hippel, 2005). Cooperation with a firm in NPD and co-creation has become strategically important for worldwide business connections (Iansiti and Levien, 2004). The information shared by customers can help the firm understand their needs and decrease the product failure risk

(Ogawa and Piller, 2006). Thus, engaging customers in value creation procedures is a necessity (Fuchs and Schreier, 2011). Consequently, the following hypothesis is established:

**H1:** *Customer engagement is positively associated with co-creation.*

### **3.2.2 Moderating factors (customer personality trait)**

#### **3.2.2.1 Shopping enjoyment**

Shopping for some customers is not only a process by which to purchase products but it is also for enjoyment (Bilgihan, 2016). Shopping enjoyment can be defined as a personalised customer trait represented in a tendency to find shopping experiences more pleasurable and to enjoy them more than others (Odekerken-Schröder et al., 2003). According to Reynolds and Beatty (1999), shopping enjoyment is the pleasure and joy that a customer acquires from shopping activities.

The prior literature has discovered several reasons behind a customer's decision to shop, as not every customer does shopping for the same reasons; there are different enjoyment sources that satisfy different shoppers' needs (Cox et al., 2005). The concept of shopping enjoyment combines hedonic and utilitarian customers. The hedonic motivations indicate that the purchase derives from a desire for joy and entertainment offered by buying and using new products, as a result, the main goal of this consumption is to satisfy the appetite associated with pleasure. The utilitarian motivation's purpose is to achieve a consumption task which is inspired by the customer making an effort to solve problems and fulfil needs and wants through knowing product information (Hirschman and Holbrook, 1982). Cox et al. (2005) have identified several sources of shopping pleasure such as socialising with others, bargain hunting, browsing, sensory stimulation and being pampered.

It has been specified that customers who find shopping experiences enjoyable, feel satisfied with a store, spend a longer time in a store which leads to higher spending and they also tend to be more innovative and more effectively participate in information seeking (Babin and Darden, 1996; Bellenger and Korgaonkar, 1980; Shannon and Mandhachitara, 2008b). The more the customers find shopping an enjoyable experience, the stronger the relationship between customer engagement and co-creation will be. Therefore, shopping enjoyment moderates the relationship between customer engagement and co-creation and the following hypothesis is proposed:

**H2:** *The positive relationship between customer engagement and co-creation is moderated by the shopping enjoyment trait. This relationship is stronger for customers who experience high levels of shopping enjoyment.*

### **3.2.2.2 Social recognition**

Social recognition can be defined as a personalised customer trait representing the desire to be well-respected and appreciated by others (Odekerken-Schroder et al., 2003). Based on Maslow's pyramid of human needs, seeking to be appreciated and socially recognised are considered to be major, essential human needs (Helm et al., 2013). It has been demonstrated that individuals seek social recognition in order to enhance their self-confidence, self-respect and self-esteem; in contrast, lack of recognition can lead to sickness and depression (Honneth, 1996). In other words, it has a negative impact on physical and mental health (Townsend and McWhirter, 2005). Weak social competence, apparent among those with low contact skills and increased social isolation are the reasons behind a lack of recognition (Helm et al., 2013).

Customers who strive to obtain recognition or wish to be appreciated or respected in the community tend to buy the product which can assist in boosting their social self-concept (Sweeney and Soutar, 2001). Self-concept is considered to be a customer need and if a product fails to meet this need, it would lead to decreased customer satisfaction (Park et al., 1986). However, social recognition is positively associated with customer satisfaction (Bloemer and Dekker, 2007). Once a customer is satisfied with a firm, a great level of engagement can be accomplished in terms of commitment, loyalty and spreading WOM (Van Doorn et al., 2010).

Some customers are looking for social recognition through their relationships with firms (Forman, 1991). Tauber (1972) stated that individuals might go shopping due to attention needs. Customers tend to engage in a strong relationship with firms when this relationship satisfies the desire to be well respected and socially recognised (Odekerken-Schröder et al., 2003). Thus, this study proposes that there is a stronger relationship between customer engagement and co-creation when a customer likes to be well respected and appreciated by the firm and the following hypothesis is deduced:

**H3:** *The positive relationship between customer engagement and co-creation is moderated by the social recognition trait. This relationship is stronger for customers who experience a high need for social recognition.*

### **3.2.2.3 Social affiliation**

Social affiliation can be defined as a personalised customer characteristic represented by a tendency to associate with others and to prefer being with people to staying alone (Cheek and Buss, 1981). From a customer point of view, social support and helping others are some reasons

for maintaining a relationship with a product and service provider (Bendapudi and Berry, 1997). A customer-firm relationship might be one of the ways that customers seek to satisfy their desire to communicate and exchange information with others (Shim and Eastlick, 1998).

Price and Arnold (1999) have referred to social affiliation from a commercial friendship perspective as sociability, and this has been viewed as participation in friendship formation. In the service setting, Price and Arnold (1999) stated that sociability is one determinant that likely contributes to commercial friendship formation especially in a hairdresser context; there are some social factors that motivate the customer to remain in their relationship with a service provider, such as social support and helping other customers (Gwinner et al., 1998). Extroverts are usually referred to as having high sociability which means they need to have individuals to talk to and have a thirst for physical activity, like laughing and engaging in social interaction. In contrast, an introvert is referred to as a quiet individual who prefers to read a book rather than socialising with others (Hills and Argyle, 2001).

Bloch et al. (1994) found that buying goods and services might not be the only reason for visiting a shopping mall but socialising and talking to others could be the prime motivation for individuals to visit it, since a mall offers great opportunities for people to associate and socialise with others in open spaces and a food court. Therefore, shopping malls provide customers who feel lonely with social interaction (Forman and Sriram, 1991) and doing shopping is considered a social activity for some individuals (Kang and Ridgway, 1996). In line with this research, some customers do not look for reward from their engagement but they need to be with others. The more customers associate with each other and the more comfortable they feel with engaging with the service, the more they will be satisfied with the relationship (Raciti et al., 2013). Additionally, individuals who search for human contact are more ready to participate

and engage in a long-term relationship (Forman and Sriram, 1991). Therefore, social affiliation moderates the relationship between customer engagement and co-creation and the following hypothesis was formulated:

**H4:** *The positive relationship between customer engagement and co-creation is moderated by the social affiliation trait. This relationship is stronger for customers who have a high need for social affiliation.*

### **3.2.2.3 Preferential treatment**

Preferential treatment can be defined as “giving selective customers elevated social status, recognition and/or additional or enhanced products and services above and beyond standard firm value propositions and customer service practices” (Lacey et al., 2007, p. 242). An underlying meaning in the idea of relationship marketing is to focus on certain customer and client selectivity that some individuals need to be treated differently (Sheth and Parvatiyar, 1995). Peterson (1995) argued that special treatment enables a seller to fulfil an individual's basic need to feel important and special.

Gwinner et al. (1998) found that preferential treatment includes customisation benefits such as extra attention, personal recognition and special service not available to another customer. Examples of customisation benefits based on preferential treatment include private tours, customised products, invitations to special events and first access to new product shipments (Lacey et al., 2007). Customers who receive preferential treatment can customise products and get special recognition when they are engaged with the firm in marketing relationships (Barnes, 1997). However, some criticism is directed towards preferential treatment: firstly, preferential

treatment does not always lead to satisfaction among customers who receive it because of a lack of fit between the individuals who receive the rewards and their anticipation of special treatment (Pez et al., 2015). In line with this criticism, Hennig-Thurau et al. (2002) found that preferential treatment benefits to customers do not have an effect on satisfaction and loyalty. Secondly, an organisation should attempt to ameliorate their service quality for all customers not only for a specific group (Lacey et al., 2007). Finally, Mayser and von Wangenheim (2013) have argued that clients who consider special treatment to be unfair and are personally influenced by a firm's strategy to treat customers differently may react negatively to both preferred or non-preferred treatment. In addition, Lo et al. (2007) reported that individuals react negatively when they are not treated as well as others.

Strong customer-firm relationships (Berry, 1995), spreading positive WOM and increasing purchase intention are some of the results of preferential treatment (Lacey et al., 2007). Customers who get special status and treatment might want to be admired by others and want them to recognise their higher status, which can lead to boosts in self-esteem and increased self-evaluation (Drèze and Nunes, 2009), as well as higher satisfaction about being different from others (Berger and Heath, 2007) and feelings of superiority (Henderson et al., 2011). Meanwhile, unearned preferential treatment negatively affects client satisfaction and behaviour intention (Mattila et al., 2013). In addition, Brewer (1991) stated that some customers look for uniqueness and to prevent similarities with others in order to feel unique and special, which leads to self-enhancement. Preferential treatment might strengthen the relationship between targeted customers and firms while it can weaken the relationship with customers who do not receive special treatment, which results in the non-targeted customer either: paying more to get the same service quality or getting less benefit than the favoured customer even though they are paying the same price (Lo et al., 2007). As a result, customers who like to be treated in a

special way are more likely to engage in the co-creation process. Thus, preferential treatment moderates the relationship between customer engagement and co-creation and the following hypothesis is formulated:

**H5:** *The positive relationship between customer engagement and co-creation is moderated by the preferential treatment trait. This relationship is stronger for customers who have a high need for preferential treatment.*

### **3.2.2.5 Personalisation:**

Personalisation is defined as a customer's understanding of the extent to which a firm can interact and be involved with a customer in a personal and warm way (Mittal and Lassar, 1996). The social sides of customer-firm relationships are always critical (Czepiel, 1990). Darden and Dorsch (1990) stated that social interaction could be the main motivator for some clients to visit a store. A number of marketing studies have identified social relationship benefits such as friendship (Price and Arnould, 1999), feelings of familiarity (Berry, 1995) and engaging in friendly communications (Crosby et al., 1990).

Building a strong relationship with clients is a primary goal of many organisations (Haytko, 2004). The personal relationship between a buyer and seller includes benefits and costs. The benefits include exchange effectiveness and social satisfaction (Dwyer et al., 1987). Relationship marketing can alleviate against the failure of a product or service, which means the firm with a close and strong relationship with its customers will make them more tolerant of any small mistakes or failures on the part of the firm Berry (1995) describes a similar finding that social relationships maximise forgiveness for service failure and strengthen customer

loyalty. Therefore, the personal relationship between customers and a firm will surely affect the relationship outcomes (Beatty et al., 1996; Odekerken-Schröder et al., 2000). As Dwyer et al. (1987) suggested, customers are the main beneficiary of psychological and social benefits, not the organisation. The relationship that develops between individuals and firms can become very personal over time (Haytko, 2004). Beatty et al. (1996) have referred to the close relationship between a customer and organisation as relationship selling. They explained: "Relationship selling entails ongoing one-on-one customer-sales associate relationships and thus works better in a service environment in which personalized service is desired by the customer" (p. 224).

Customers get benefits from the interpersonal relationships that fill certain needs (Reynolds and Beatty, 1999). Satisfaction from the service is not the only benefit that the individuals receive from the interpersonal relationships but there are three types of benefit: confidence, social, and special treatment benefits (Gwinner et al., 1998). Hennig-Thurau et al. (2002) reported that there is a positive relationship between those three types of benefit and customer loyalty. Based on the findings from previous studies, Reynolds and Beatty (1999) classified the relationship benefits as functional or social. Functional benefits include time savings, convenience and better purchase decisions, whereas the social benefits include enjoying spending time with the firm, making friends and enjoying the close relationship with the firm. Hence, this study proposes that there is a stronger relationship between customer engagement and co-creation when a customer likes to have a close and personal relationship with the firm and the following is postulated:

**H6:** *The positive relationship between customer engagement and co-creation is moderated by the personalisation trait. This relationship is stronger for customers who have a high need for a close and personal relationship with the firm.*

### **3.2.3 The relationship between customer co-creation and new product success**

Increasing profits, sales and strengthening competitiveness are the desired new product outcomes for all organisations. Information sharing means exchanging crucial information between two partners in an effective way about product ideas in a new product development process, while coordination effectiveness referees how two parties can work together in order to achieve work effectively during the NPD process (Jap, 1999). This information sharing make co-creation communities equal or exceed the traditional process of new product development with regard to creativity, development speed and product success (Shah, 2006). Clients add importance to the firms by helping them to understand their preferences and by involving them in the development procedures (Joshi and Sharma, 2004). Gruner and Homburg (2000) found that engaging customers in the early and late stages of the new product development process increases product success, while there is no benefit to involving them in the middle stage. Celly and Frazier (1996) stated that high levels of social engagement between a customer and firm in the early stages of NPD lead to developing information density and frequent exchanges.

A new product goes through several stages; it begins as an idea, goes through design and development, which is known as the launch stage, then a product undergoes commercialisation as the final stage of NPD processes (Cooper, 1988). Those methodical processes of NPD have a positive impact on creating profitable new products (Cooper, 1994). In addition, new product development is an important incentive for corporate success (Sorescu et al., 2003). Customers

play an important role in firm processes; customers not only receive a service but their role goes beyond that, making them a valuable component in product/service development procedures (Ryzhkova, 2015). Chang and Taylor (2016) found that companies can utilise customer participation in the early stages of NPD to speed up the procedure which leads to a successful new product; thus, based on the engagement between the customer and the product provider, new product/service success is difficult to achieve without clients' ideas and feedback on the efficiency of product delivery procedures. The feedback which is derived from the clients involves them in helping the firm improve their product by providing ideas and suggestions which can lead to new product improvement or produce new products (Jussila et al., 2014; Nambisan, 2002) which affect the company's performance (Pansari and Kumar, 2016). The main purpose of the interaction between the firm's professional designers and customers is to gain creative ideas to make a successful new product (Menguc et al., 2014). Nishikawa et al. (2013) demonstrated, in their study, the importance of the integration of users' ideas into NPD processes. The Japanese company revealed that the product sales from ideas collected from users were five times greater than the sales of products produced by professional designers. Customer involvement capacity helps firms to improve new ideas based on customers' needs, which leads to the introduction of new products (Anning-Dorson, 2018). Creating excitement, positive word of mouth, customer satisfaction and loyalty are the outcomes of involving customers in NPD processes, which results in making a successful new product (Szymanski et al., 2007). Feng et al. (2014) pointed out that users can be engaged in several roles in NPD such as product experiments, product design and continuous product improvement. Customer engagement is a necessary factor for developing new product performance. Engaging customers in co-creation processes paves the way for customers as a knowledge resource to help the firm in producing a successful new product and service (Storey and Larbig, 2018). Hence, the following hypothesis captures the influence of this construct:

**H7:** *Customer co-creation is positively associated with new product success.*

### **3.2.4 The mediating role of co-creation**

A previous study stated that co-creation has benefits for both firms and customers (Yim et al., 2012). For customers, the opportunities that have been given to customers to engage in co-creation processes make them more satisfied than customers who do not engage (Navarro et al., 2016) and encourage them to be more creative (Franke and Schreier, 2010). Moreover, the benefits generated from co-creation cause increased commitment (Zhang et al., 2017) and psychological attachment to the firm (Delpechitre et al., 2018). For firms, the firm can capitalise on the customer to innovate and work cooperatively in a cost-effective manner (Prahalad and Ramaswamy, 2004) which might result in making a successful new product (Menguc et al., 2014).

Firms with a high level of customer involvement capabilities are able to be close to clients and thus to satisfy their needs (Kohli and Jaworski, 1990). Hult et al. (2004) stated that firms which stay close to customers benefit from co-creation activities more than firms that do not. Being close to clients helps companies to develop creative products based on customers' preferences which lead to improved overall performance (Story et al., 2015). Chang and Taylor (2016) found that companies can utilise customer participation in the early stages of NPD to speed up the procedure which leads to a new product; thus, based on the engagement between the customer and the product provider, new product/service success is difficult to achieve without clients' ideas and feedback on the efficiency of product delivery procedures. The feedback which is derived from the clients involves them in helping the firm improve their product by providing ideas and suggestions which can lead to new product improvement or produce new

products (Jussila et al., 2014; Nambisan, 2002) which affect the company's performance (Pansari and Kumar, 2016). Gruner and Homburg (2000) claimed that engaging customers in the early and late stages of the new product development process increases product success. The actively engaged customers are an important source of external knowledge and information which assists firms with their activities (Pansari and Kumar, 2017). For instance, they can provide ideas, feedback and suggestions to improve a new product (Yen et al., 2020). Storey and Larbig (2018) pointed out that customers as an external resource can be used for a successful new service by involving them in the co-creation process. In the exchange process, individuals and firms cannot deliver value without engaging and integrating together in value co-creation. Therefore, NPS is not directly affected by CE, as co-creation explains the underlying process which indicates that co-creation plays a significant intermediary role between customer engagement and new product success. Accordingly, the following hypothesis was formed:

**H8:** *Customer co-creation mediates the relationship between customer engagement and new product success.*

### 3.3 Reflective versus formative indicator measurement models

Before evaluating the measurement and structural model, it is necessary to determine the relationship between the construct and its measures (MacKenzie et al., 2005). The direction of causality between the construct and the indicators is one key in deciding whether the measurement model is reflective or formative. In a reflective model, the causality flows from the construct to the indicators while the opposite happens in a formative model – the causality flows from the indicators to the construct. In other words, in a reflective model, the latent construct causes the indicators whereas the indicators cause the latent construct in a formative

model (Bollen and Lennox, 1991). As a previous study suggests, CE is a second order reflective construct (So et al., 2016a) because it causes its dimensions which are identification, enthusiasm, attention, absorption, and interaction. Moreover, reflective indicators are expected to be correlated with each other. In the case of a formative model, there is no expectation about the correlations between the indicators; they might be high, low or in between (MacKenzie et al., 2005). With this in mind, the five CE dimensions are expected to be correlated with one another because these dimensions are caused by the same underlying latent construct, meaning that they reflect the same construct. Consequently, changes in an indicator are correlated with relative changes in the other indicators (Hair et al., 2006). For instance, a strong enthusiasm for the firm probably increases the consumer's attention and focus on the firm as well as the customer's online and offline involvement with the firm.

### 3.4 Chapter summary

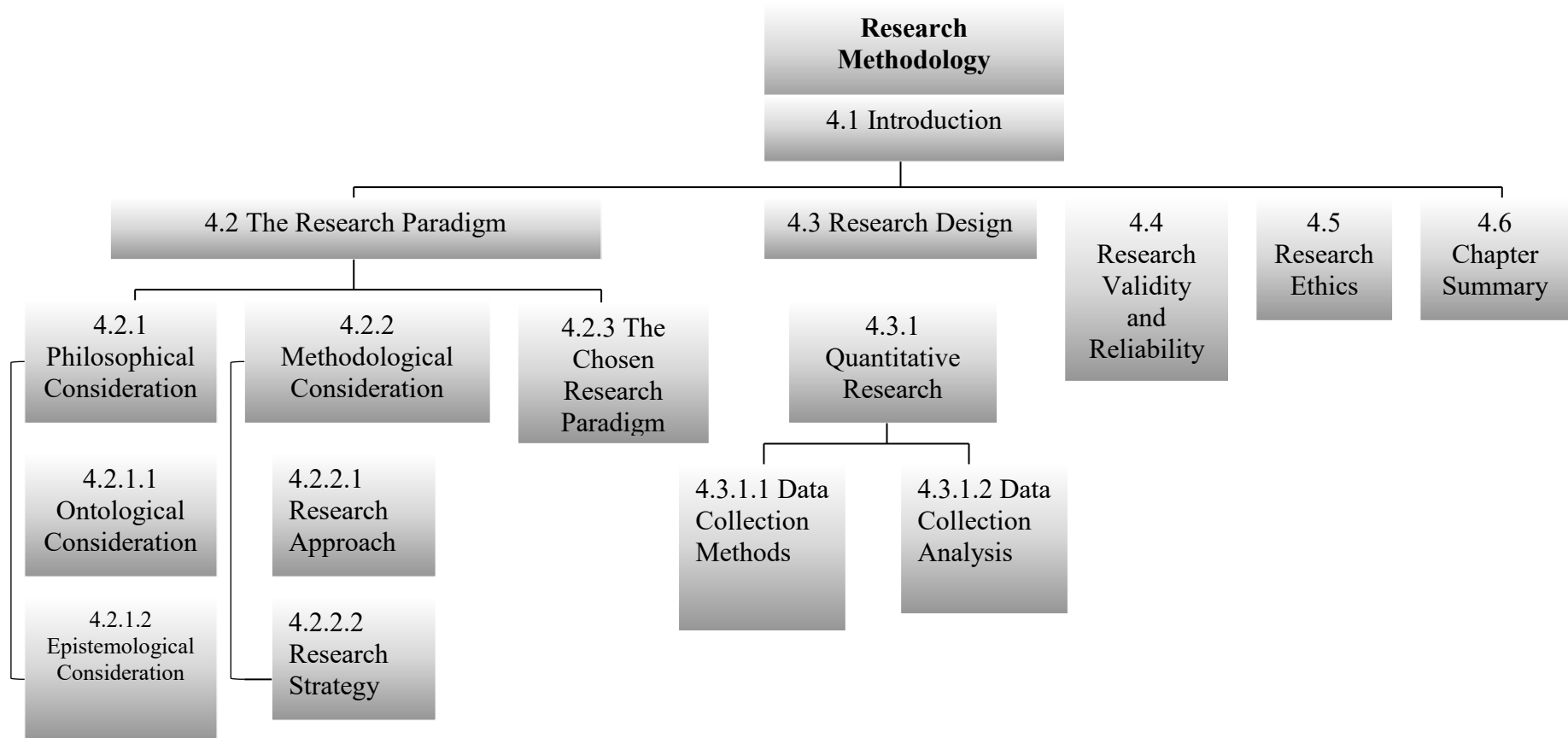
In this chapter, the conceptual framework was constructed based on reviewing the relevant literature. The relationships between the main constructs (customer engagement and customer co-creation; customer co-creation and new product success and shopping enjoyment, social recognition, social affiliation, preferential treatment and personalisation (as moderators for engaging customers in the co-creation process) were determined. The hypotheses were formulated according to the findings of previous studies. The hypotheses are empirically tested in Chapter Five. The methodology chosen to conduct this research is explained in the next chapter.

## 4 RESEARCH METHODOLOGY

### 4.1 Introduction

This chapter aims to explain the methodology used in this research; a quantitative approach was chosen. Firstly, it explains the inquiry paradigm that was adopted in the research which includes the philosophical and methodological considerations with detailed justification of the approach selected. First, the philosophical considerations are identified in terms of the ontological and epistemological paradigm. After that, methodological considerations are determined in accordance with the approach and strategy. In addition, the questionnaire design with the scale instrument are discussed. Then, the sample strategy, data collection methods and data analysis method are explained, followed by the research reliability, validity and ethical issues.

## Structure of the Chapter



## **4.2 Research paradigm considerations**

In this section, philosophical and methodological perspectives are discussed with justification of the chosen paradigm in relation to the nature of the research. This paradigm leads to the research process.

### **4.2.1 Philosophical perspectives**

Research philosophy is related to the researcher's thinking on knowledge development (Saunders et al., 2007). There are two concepts which are identified as a basis for the research philosophy. The first concept, which is the "paradigm", refers to the assumptions that the researchers make with regard to the way in which they view the world (Creswell and Clark, 2011; Saunders et al., 2007). The second concept is the theoretical perspective which relates to assumptions that are made with regard to conducting the research (Creswell and Clark, 2011; Saunders et al., 2007). There are two main assumptions in philosophy that shape the research phases: ontological and epistemological (Saunders et al., 2009). The links between philosophy and social research discloses itself in ontology and epistemology as important indicators, where the researcher uses them in the research of a problem present in the social world (Easterby-Smith et al., 2008). The ontology paradigm focuses on searching for reality, while epistemology is about how knowledge can be understood in the research field (Scott, 2000).

#### **4.2.1.1 Ontological paradigm**

An ontological paradigm is in line with the researcher's philosophical assumptions about the nature of reality (Creswell and Clark, 2011; Saunders et al., 2009). Two aspects of ontological philosophies have been considered in business research: objectivism and subjectivism (Saunders et al., 2007). Objectivism looks at social reality as an external aspect (Creswell and

Clark, 2011; Saunders et al., 2009). Within the objectivism framework, the investigator studies the social phenomena independently from social actors (Robson, 2011; Saunders et al., 2009). In contrast, subjectivism as an ontological paradigm suggests that social phenomena are produced by social actors (Saunders et al., 2007). Subjectivism assumes the reality is socially built through the interactions of social actors who are part of this reality (Robson, 2011).

#### *4.2.1.2 Epistemological paradigm*

Two main epistemological positions can be utilised to conduct research, namely positivism and interpretivism (Easterby-Smith et al., 2012; Johnson and Onwuegbuzie, 2004). **Positivism** assumes that the social world occurs externally and its traits are identified by objective methods of social actors (Easterby-Smith et al., 2012; Robson, 2011). In other words, a positivist epistemological paradigm illustrates that knowledge does not exist without objects since the basis of knowledge comes from experiences (Bryant, 1985). The researcher in this paradigm is less involved in the process of data collection due to the nature of reality being objective as it is away from and independent of social actors (Saunders et al., 2009, 2012). Its results can be generalised because of its adaptability, validity and reliability (Payne and Payne, 2004). However, the positivism paradigm can obstruct the researcher from gaining the rich and useful meaning of social phenomena (Saunders et al., 2009). Positivist beliefs need to be explained in a way which enables facts to be measured using a quantitative method (Easterby-Smith et al., 2008). A positivist researcher prefers to use experiments, survey and statistics (Oates, 2005).

Positivism suggests that researchers need to implement structured methods and follow a particular series of stages which simplify replication, thus revealing knowledge (Gill and Johnson, 2002). Moreover, the revealing process requires researchers to apply and follow a

particular gradation of stages beginning with observation, next, specifying the idea, then developing hypotheses, collecting and analysing the data, and eventually drawing findings (Hair et al., 2007).

**The interpretivism paradigm** states that reality is built by social actors (Robson, 2011; Wahyuni, 2012). An interpretivist epistemology assures the importance of recognising and understanding different roles of individuals in the social world and not viewing them as objects (Saunders et al., 2009). The meaning of social reality can overlap between social actors and subjective views (Creswell and Clark, 2011). Various meanings and knowledge can be socially and subjectively constructed by multiple views of social actors (Robson, 2011). Therefore, researchers need to utilise the appropriate research method which allows them to catch these different views, such as interview and observation (Robson, 2011). Thus, this paradigm speeds up the development of knowledge through use of a qualitative method (Saunders et al., 2012).

In the current research, the objective was to examine how customer engagement is associated with co-creation and investigate the mediating role of customer personality traits on the relationship between CE and CCO. This was accomplished through examining the applicability of a research framework that has fundamentally been developed based on prior literature. In order to meet the research aim and objectives, a series of stages was followed. The first stage was to analyse the applicable literature, then the ideas for the basis of the research were determined, the hypotheses were formulated, the data were collected and analysed and then the research findings were drawn. Moreover, this research concentrates on a causal relationship between constructs that were tested using quantifiable measures. Consequently, the positivism paradigm is the most appropriate epistemological paradigm for the current research.

## 4.2.2 Methodological perspective

This part discusses the research approach and strategy.

### 4.2.2.1 Research approach

In order to discover the relationship between theory and research, it is beneficial to determine the research approach, whether it is deductive or inductive (Bryman, 2016; Malhotra et al., 2006). The deductive approach process starts by developing hypotheses based on existing theory, then collecting data to test these hypotheses without involving the researcher in the process (Bryman, 2016; Saunders et al., 2009). The main characteristic of the deductive approach is to explain causal relationships between variables (Blaikie, 2010; Robson, 2011). Quantitative methods are commonly utilised in this approach (Becker et al., 2012).

A process of six steps were identified in the deductive approach by Bell et al. (2018), beginning with theory and reviewing relevant literature, then forming research hypotheses, data collection, findings, accepting or rejecting hypotheses, then eventually drawing the findings. Additionally, a deductive approach embraces forming hypotheses based on relevant literature and determining the research strategy to examine those hypotheses (Saunders et al., 2012).

Conversely, an inductive approach aims to build and generate theories upon data collection analysis (Bryman, 2016). This approach is used to gain better understanding of the nature of the research issue where the researcher is a part of the process (Saunders et al., 2007). In addition, an inductive approach is connected with qualitative methods (Saunders et al., 2007).

Four steps for employing deductive research were mentioned by (Robson, 2011), which is consistent with the steps of this research:

- 1) **Deducing hypotheses from the theory:** the current research developed a framework to test the relationship between customer engagement and customer co-creation and test how personality traits moderate the relationship between these two constructs and the consequence of this relationship. Drawing from social exchange theory together with prior literature on marketing research of customer behaviour, the hypotheses of the current research were formulated. The objective of forming the hypotheses is to examine the relationships between variables (Blaikie, 2010; Robson, 2011)
- 2) **Expressing the hypotheses in operational terms:** measurement scales were adopted from the previous studies in order to measure the concepts of the suggested model.
- 3) **Examining the specific outcome of the inquiry:** for data analysis, quantitative data were utilised. The current research employs Confirmatory Factor Analysis (CFA) to examine the proposed framework as well as the construct's validity and reliability.
- 4) **If necessary, modifying the theory in the light of findings:** the goal of this study is to shed light on customer engagement in the co-creation process and understand how customer personality traits can influence the relationship between CE and CCO.

In addition, a survey was adopted in this study in order to acquire the results. According to Saunders et al. (2007), a survey strategy is related to a deductive approach which is used for explanatory research. It is the most appropriate data collection method for customer point of view and captures the behaviours of a large number of individuals (Easterby-Smith et al., 2008)

#### **4.2.2.2 Research strategy**

The research strategy can be quantitative, qualitative or a combination of both (mixed methods). Quantitative designs have been utilised for confirmatory research like theory testing (Venkatesh et al., 2013). On the other hand, some researchers have used qualitative designs for

exploratory research for either an in-depth understanding of a research question or to produce new theoretical sights (e.g. Walsham, 2006). For instance, data collected qualitatively – such as in interviews – can give a deep understanding of a research question by allowing researchers to acquire deep insights from rich reports. Meanwhile, data collected quantitatively – such as surveys – can grant an expansion for a study by assisting the researchers to collect data about different sides of a research question so, as a result, these two data collection methods together have the capability to provide strong results as they complement each other (Venkatesh et al., 2013). Moreover, Johnson et al. (2007) suggest that a combination of qualitative and quantitative methods (mixed methods) can help in finding out about and dealing with problems of validity, which happens when using one of them (qualitative or quantitative), by implementing suitable alternative methods in order to guarantee the validity of methods and research. Also, qualitative and quantitative combinations can provide a fuller picture and more thorough understanding of the research topic, by utilising different types of methodological traditions for mixed methods research. Thus, the data collection will be richer, more significant and more helpful in answering the research question. Venkatesh et al. (2013) outlined seven goals of implementing mixed methods design which are complementarity, completeness, developmental, expansion, corroboration/confirmation, compensation, and diversity.

**Complementarity** studies use mixed methods to acquire complementary insights about the same relationships. For example, in Soffer and Hadar's (2007) study, qualitative research was utilised to gain extra insight into the findings from quantitative research. **Completeness** studies use mixed methods to ensure that a full and complete image of a relationship is obtained. In Hackney et al.'s (2007) study, qualitative data and outcomes gave generous clarifications of the results from quantitative data and analysis. **Developmental** means one design leads to the hypotheses to be examined in the next one. For example, Grimsley and Meehan (2007) used qualitative methods in their study to identify and develop constructs and hypotheses and then

used quantitative methods to test them. **Expansion** means mixed methods are implemented to clarify and extend the understanding gained from a previous approach in the research. For instance, the findings from one method (quantitative) are extended and detailed by testing the findings from different methods (qualitative) (Keil et al., 2007). **Corroboration/confirmation** means mixed methods are utilised to evaluate the truthfulness of the results acquired from one approach. Bhattacharjee and Premkumar (2004) used a qualitative approach to confirm the outcomes obtained from their quantitative approach. **Compensation** means the weaknesses of one approach can be compensated for by using the other one. Researchers can use mixed methods to cover the weaknesses from a small sample size in the quantitative approach by using qualitative analysis (Dennis and Garfield, 2003). Finally, **diversity** is a benefit of mixed methods used to obtain different views of the same study. For example, qualitative and quantitative methods can be used to assist researchers to get divergent aspects from two different sorts of participants (Chang, 2006).

Many researchers have mentioned the limited use of mixed methods research in marketing, despite the abundance of journals and articles related to this type of approach in the field (Hanson and Grimmer, 2007; Harrison and Reilly, 2011). The reason behind the low use of this methodological approach includes preference for the use of quantitative method designs in marketing, although qualitative methods could add value to the data collected through quantitative research. This suggests that qualitative methods are complementary to quantitative methods (Hunt, 1994), although researchers previously may have faced some difficulties in learning how to mix two methods in a single study (Harrison and Reilly, 2011). However, Woodruff (2003) argues that marketing strongly supports mixed methods, as it concentrates on accurate research. This method, according to Creswell (2009), is the best method for obtaining detailed responses and important information from participants.

Three objectives are central to conducting research, namely exploratory, descriptive and explanatory approaches. Exploratory seeks to define a research question with the word "what?" and it is also useful to gain a better understanding of constructs (Yin, 2017); furthermore, it helps the researcher to identify and produce new themes and knowledge through the data collected during the research (Quinn Patton, 2002). The descriptive approach can be subjective in accordance with the individual skills and understanding of phenomena (Walliman, 2005). The explanatory approach aims to explore the relationship between different constructs using either a qualitative or quantitative approach which can assist the researcher to understand the relationships in depth (Saunders et al., 2007).

**Table 4-1 Comparison between qualitative and quantitative research**

| <b>Qualitative Research</b>                                                                                                            | <b>Quantitative Research</b>                                                                                                        |
|----------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| This kind of research is associated with a interpretive philosophy and adopts the inductive approach which is about building theories. | This kind of research is associated with a positivist philosophy and adopts the deductive approach which is about testing theories. |
| Theory can be casual or non-casual.                                                                                                    | Theory is casual.                                                                                                                   |
| Utilises large sample.                                                                                                                 | Utilises small sample.                                                                                                              |
| The type of data is in the format of words and images from documents and transcripts.                                                  | The type of data is in the format of numbers from the measurement.                                                                  |
| The sampling method is non-probability sampling.                                                                                       | The sampling method is probability sampling.                                                                                        |
| In-depth interviews and focus groups are implemented in this type of method.                                                           | Questionnaires are utilised in surveys implemented in person, by phone or                                                           |

|  |                                                                     |
|--|---------------------------------------------------------------------|
|  | mail, or online. Observation and experimentation are also utilised. |
|--|---------------------------------------------------------------------|

Adopted from Neuman (2010) and Saunders et al. (2012)

A quantitative research strategy was adopted in this study. The reasons for choosing this strategy are as follow: firstly, quantitative research is associated with a positivist paradigm; secondly, testing the hypotheses based on existing theories and explaining the relationship between concepts is the main purpose of adopting a quantitative method which is suitable for this study as the researcher had to review the literature regarding the subject of this research. A quantitative research method is a research strategy which involves collecting and analysing data quantitatively and is associated with a deductive approach which is about testing theories (Bryman, 2016). In this study, the data were collected utilising a structured quantitative instrument (a self-administered questionnaire (SAQ)) which was designed to be completed by the customers without interference from the researcher collecting the data. Consequently, the collected data were coded and entered into SPSS. Subsequently, Structural equation modelling utilising AMOS graphics was conducted to analyse the data.

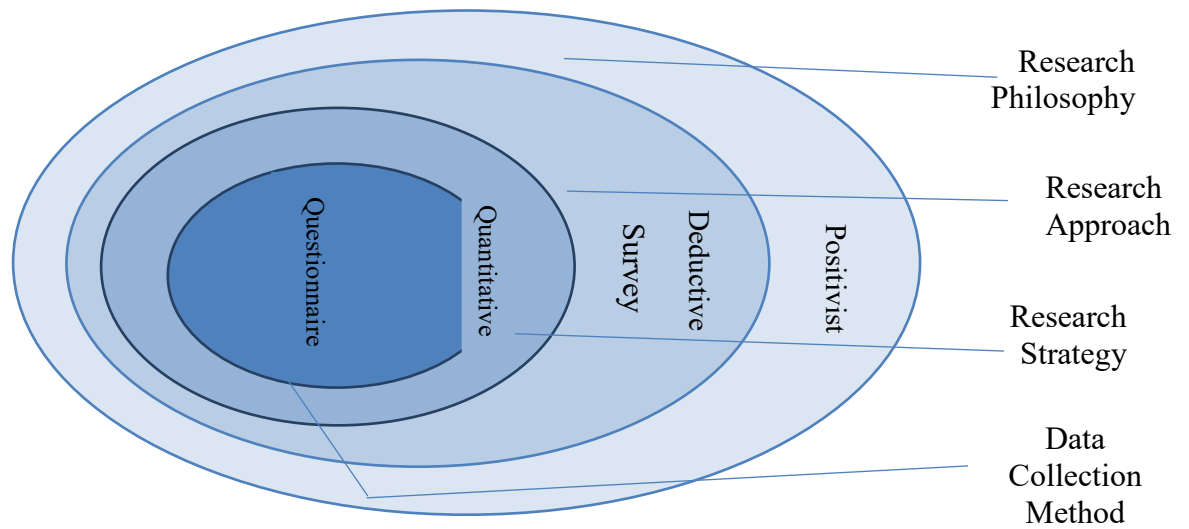


Figure 4-1 The different stages of the current research embraced from Saunders et al. (2009)

### 4.3 Research design

The research design is a plan which guides the data collection and analysis process for the research (Bell et al., 2018a; Saunders et al., 2009). This section is concerned with the plan of the present research that is used to answer the research questions and address the objectives. There are two types of data used in this research: secondary and primary data. Secondary data were utilised to improve the literature review and the research model. These data were collected from books and journal articles.

The literature review helped the researcher in the development of the conceptual framework through the definition of the research concepts of customer engagement, customer co-creation, new product success, determining the moderators of customer personality and identifying the relationship between these concepts.

Primary data were collected from customers through a questionnaire survey. The primary data collection process is explained in the following sections.

#### 4.3.1 Quantitative research

The purpose of quantitative research is to understand the relationships between the research concepts. All scale measures are borrowed from existing research and modified to fit the research purpose. The questionnaire is used for data collection.

In a quantitative measurement model, theoretical constructs are named latent variables whereas the items for each construct in the measurement model are named observed variables. The formation of the measurement model needs to be discussed before choosing the suitable theoretical concepts which are also latent variables (Coltman et al., 2008; Diamantopoulos and Siguaw, 2006). Formative and reflective are two types of quantitative measurement model discussed in Chapter Three. The divergence between reflective and informative models depends on the relationship between latent variables and observed variables (Diamantopoulos and Siguaw, 2006).

As a result, a reflective measurement model is utilised in this study which explains the impact of the observed variables on the latent variables. In a reflective measurement model, it is important to determine the valid and reliable latent and observed variables that are suitable for this research (Diamantopoulos and Winklhofer, 2001). This comprises the following principles: 1) whether the existing questionnaire constructs from prior studies can be directly used in the current research; 2) whether the specified constructs need to be adapted to fit the context of the study; 3) whether the measurement items from the construct can be employed

directly. The existing latent variables in this study were selected from previous pertinent research and discussed in the literature review (Chapter Two). The research model and the hypotheses which suggested the relationships between the specified latent variables and the observed variables are summarised in Chapter Three.

#### *4.3.1.1 Data collection methods*

Research methods outline different methods data collection and analysis employing different tools and techniques (Wahyuni, 2012). As mentioned previously, a questionnaire strategy is used in this study to collect data. Saunders et al. (2007) state that questionnaires are linked to various research strategies such as survey, case study or design and creation. Postal questionnaires, interviews and online questionnaires are classified as types of quantitative approach (Easterby-Smith et al., 2008). A printed questionnaire was used to collect data from the customers of jewellery stores in London. Utilising this method can serve the research objectives of investigating the customers' role in new product success by examining the conceptual model and measuring the variables of the model. The format of the questionnaire was closed-ended questions to make it easier and faster for the targeted respondents to complete it (Oppenheim, 1992). It took nearly five months from December to April 2018 to conduct this quantitative study.

Researchers have not reached the optimal and best number of points on a Likert type scale yet. The usage of a five-point Likert scale was recommended by Finstad (2010) and Leung (2011) for a large study (when the sample number is greater than 100), whereas for a smaller study (when the sample number is less than 100) a seven-point Likert is best used to show data distribution. In addition Churchill and Iacobucci (2006) stated that the usage of a seven-point

Likert scale can ease the differences between the scale categories and boost the measurements' reliability. As a result, the number of scale points has no impact on validity and reliability (Jacoby and Matell, 1971). Therefore, a seven-point Likert scale was used in the questionnaire to measure the constructs of the model. The responses were designed on a seven-point Likert scale ranging from 1=strongly disagree to 7= strongly agree.

- **Data collection instrument**

The questionnaire content was adopted from the existing literature review. The design of the questionnaire was kept simple and brief. It was presented on only a few pages to make it easier and quicker for the customer to fill in as it was understood that people are busy during the Christmas and new year period. The researcher was concerned that if there were too many pages in the survey with too many questions, it might lead to incomplete surveys. The questionnaire concentrated on the following subjects:

**Customer engagement:**

Customer engagement is assessed in line with So et al. (2016); it was comprised of identification (4 items), enthusiasm (5 items), attention (5 items), absorption (6 items) and interaction (5 items).

**Customer co-creation:**

Customer co-creation is assessed in line with Khanagha et al. (2017). It was made up of seven items.

## **Customers personality traits:**

### **Social recognition:**

Social recognition is assessed in line with Odekerken-Schröder et al. (2003). It was made up of three items.

### **Shopping enjoyment:**

Shopping enjoyment is assessed with (Odekerken-Schröder et al., 2003). It was made up of three items.

### **Social affiliation:**

Social affiliation is assessed in line with Cheek and Buss (1981). It comprised four items.

### **Preferential treatment:**

Gwinner et al. (1998) developed five items which are used in this study to measure preferential treatment.

### **Personalisation:**

Personalisation is assessed in line with Mittal and Lassar (1996). It consisted of four items.

### **New product success:**

New product success is assessed in line with (Tseng and Chiang, 2016); it comprised performance quality (three items) and customer performance (three items).

The measurements were adopted to capture the customer perspective and items were modified to fit the research purposes as shown in Table 4.1.

Table 4-2 Data collection instrument

| Construct                  | Measurement                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Reference        |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| <b>Customer Engagement</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                  |
| <b>Identification</b>      | <p>Thinking about this company, please indicate how much you agree or disagree with each of the following statements:</p> <ol style="list-style-type: none"> <li>1. When someone criticises this brand, it feels like a personal insult.</li> <li>2. When I talk about this brand, I usually say we rather than they.</li> <li>3. This brand's successes are my successes.</li> <li>4. When someone praises this brand, it feels like a personal compliment.</li> </ol> | So et al. (2016) |
| <b>Enthusiasm</b>          | <p>Thinking about this company, please indicate how much you agree or disagree with each of the following statements:</p> <ol style="list-style-type: none"> <li>1. I am heavily into this brand.</li> <li>2. I am passionate about this brand.</li> <li>3. I am enthusiastic about this brand.</li> <li>4. I feel excited about this brand.</li> <li>5. I love this brand.</li> </ol>                                                                                  | So et al. (2016) |
| <b>Attention</b>           | <p>Thinking about this company, please indicate how much you agree or disagree with each of the following statements:</p> <ol style="list-style-type: none"> <li>1. I like to learn more about this brand.</li> <li>2. I pay a lot of attention to anything about this brand.</li> <li>3. Anything related to this brand grabs my attention.</li> </ol>                                                                                                                 | So et al. (2016) |

|                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                  |
|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
|                    | <p>4. I concentrate a lot on this brand.</p> <p>5. I like learning more about this brand.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                  |
| <b>Absorption</b>  | <p>Please indicate the extent to which you agree or disagree with the following statements when interacting with this company:</p> <ol style="list-style-type: none"> <li>1. When I am interacting with the brand, I forget everything else around me.</li> <li>2. Time flies when I am interacting with the brand.</li> <li>3. When I am interacting with this brand, I get carried away.</li> <li>4. When interacting with the brand, it is difficult to detach myself.</li> <li>5. In my interaction with the brand, I am immersed.</li> <li>6. When interacting with the brand intensely, I feel happy</li> </ol> | So et al. (2016) |
| <b>Interaction</b> | <p>Thinking about your interactions and connections with [insert brand name] and other customers, please indicate how much you agree or disagree with each of the following statements:</p> <ol style="list-style-type: none"> <li>1. In general, I like to get involved in brand community discussions.</li> <li>2. I am someone who enjoys interacting with like-minded others in the brand community.</li> <li>3. I am someone who likes actively participating in brand community discussions.</li> <li>4. In general, I thoroughly enjoy exchanging ideas with</li> </ol>                                        | So et al. (2016) |

|                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                          |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
|                             | <p>other people in the brand community.</p> <p>5. I often participate in activities of the brand community</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                          |
| <b>Customer co-creation</b> | <p>1. You collaborate with the company to collectively improve or develop new products/services.</p> <p>2. You directly communicate ideas for new product/service offerings to the firm.</p> <p>3. This company shares information with customers in a two-way communication.</p> <p>4. This company uses customers' inputs to determine which products should be offered by the firm.</p> <p>5. This company collaborates with you to come up with solutions to problems relating to the company's product offerings.</p> <p>6. This company collaborates with you to track changes in consumer needs, preferences and behaviour.</p> <p>7. Their relationship with customers has resulted in actual new improved/developed product</p> | Khanagha et al. (2017)   |
| <b>Customer Personality</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                          |
| <b>Social recognition</b>   | <p>1. Generally, I am someone who likes to be appreciated by others.</p> <p>2. Generally, I am someone who likes to be respected by others.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Mittal and Lassar (1996) |

|                               |                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                   |
|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|
|                               | 3. Generally, I am someone who likes to be appreciated by acquaintances.                                                                                                                                                                                                                                                                                                                                                             |                                                   |
| <b>Shopping enjoyment</b>     | <p>1. Generally, I am someone who enjoys shopping.</p> <p>2. Generally, I am someone who enjoys shopping to see whether there is anything new.</p> <p>3. Generally, I am someone who considers shopping as a pleasant way to spend my spare time.</p>                                                                                                                                                                                | Odekerken-Schröder et al. (2003)                  |
| <b>Social affiliation</b>     | <p>1. Generally, I am someone who welcomes the opportunity to mix socially with people.</p> <p>2. Generally, I am someone who prefers working with others rather than alone.</p> <p>3. Generally, I am someone who finds people more stimulating than anything else.</p> <p>4. I am someone who would be unhappy if I were prevented from making many social contacts.</p>                                                           | Cheek and Buss (1981) and Villani and Wind (1975) |
| <b>Preferential treatment</b> | <p>1. I am someone who likes getting faster service than others.</p> <p>2. I am someone who likes getting special treatment that other customers do not get.</p> <p>3. This company does things for me that it does not do for most customers.</p> <p>4. I am someone who likes getting better services than most customers.</p> <p>5. I am someone who likes getting discounts or special deals that most customers do not get.</p> | Gwinner et al. (1998)                             |

|                             |                                                                                                                                                                                                                                                                                             |                          |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| <b>Personalisation</b>      | 1.This company takes the time to know their customers personally.<br><br>2. This company engages in friendly conversation with their regular customers.<br><br>3. The company employees show personal warmth in their behaviour.<br><br>4.The company's employees are polite and courteous. | Mittal and Lassar (1996) |
| <b>New Product Success</b>  |                                                                                                                                                                                                                                                                                             |                          |
| <b>Quality performance</b>  | 1. The quality of the new product is comparable to that of competitors.<br>2. The quality of the new product is better than that of competitors.<br>3. The quality of the new product is better than all other products of the same company.                                                | Tseng and Chiang (2016)  |
| <b>Customer performance</b> | 1. The new product meets or exceeds customer expectations.<br>2. The new product meets or exceeds customers' expectations of satisfaction.<br>3. The new product meets or exceeds the customers' expected value.                                                                            | Tseng and Chiang (2016)  |

#### **4.3.1.1.1 Pilot study**

A pilot study was conducted to ensure the validity of the research measurement and to get feedback on the suitability of the questions in terms of the structure and design. Pilot testing aims to get important information and feedback on the clarity of language used, the importance

of questions structured and to count the time taken to answer the survey. According to Saunders et al. (2007, p. 386), the objective of a pilot study is "to refine the questionnaire so that respondents will have no problems in answering the questions and there will be no problems in recording the data". A pilot study helps to implement face validity where participants can find out whether the questions are understandable to them and whether they face any difficulties in completing the questionnaire. For the pilot study, 30 respondents is adequate as a sample size (Johanson and Brooks, 2010). Fifty respondents participated in the pilot test for this study. The first draft of the questionnaire was pre-tested for validity by three academic researchers in business school. Based on their comments, modifications were made to one question using an expression to avoid misunderstanding. Then the draft was piloted for the actual jewellery store customers. Overall, 35 females and 15 males participated in the pilot study. They were encouraged by the researcher to give any feedback or suggestions in order to improve the questions. All the respondents' feedback was positive with minor comments regarding typing mistakes which were rectified such as in the second question on identification a typing mistake was made: "the verb (talk) was written (take)" and also in the second question on preferential treatment, "(am) was missed". The questionnaires were delivered by the researcher personally to the clients or to the manager of the jewellery stores.

#### ***4.3.1.1.2 Sampling process***

The sampling technique for either qualitative or quantitative research is an essential part of the research design (Merriam and Tisdell, 2009). Probability sampling and non-probability sampling are two types of sample strategies (Sekaran and Bougie, 2016). A probability sample refers to the probability of each selected elements from the population is known and each case of probability sampling is representative of the population. It consists of random sampling,

stratified sampling, systematic sampling and cluster sampling (Denscombe, 2014). In contrast, non-probability sampling indicates that the probability of each selected element from the population is unknown and each element of non-probability sampling is not representative of the population. Non-probability sampling comprises convenience sampling, quota sampling, judgment sampling and snowball sampling (Denscombe, 2014).

#### *4.3.1.1.3 Sample method*

The target population for the current research was customers of jewellery stores in London who are engaged with the firm in the new product development process. The study aims to shed light on engaging the customer in the co-creation process and the moderators which moderate the relationship between customer engagement and co-creation which are customer personality traits (shopping enjoyment, social affiliation, social recognition, preferential treatment and personalisation) and their consequence (new product success).

Convenience sampling is one nonprobability sampling type where individuals in target sampling meet specific practical standards, such as being individuals who are available at a given time or are happy to participate in the study (Dörnyei, 2007). A convenience sample is “one that is simply available to the researcher by virtue of its accessibility” (Bryman, 2016, p. 187) which means that the samples were not chosen randomly and some of the participants were more likely to be chosen than others. A convenience non-probability sampling technique is adopted in this research for certain reasons: the difficulties and cost of applying a probability sampling technique is one of the reasons for avoiding this strategy (Bell et al., 2018b); thus, convenience sampling is the best method of collecting the information needed in a quick, less time-consuming and more effective way (Sekaran and Bougie, 2016). In addition, this type of

sampling is utilised in an exploratory study where the researcher is interested in acquiring an approximation of truth at low cost (Bryman, 2016). It is often utilised in order to gain an estimate of total results without incurring additional cost or taking more time (David and Sutton, 2004). However, this method has been criticised for not representing the whole population. In other words, it cannot generate outcomes that are generalisable to a larger population. In spite of this disadvantage, the information gained can still include some beneficial insights and it is a good data source in this thesis (Bryman, 2016).

- **Sample size**

The questionnaires were distributed among 310 customers who were collaborating with the jewellers in a co-creation process. As this research was conducted using Structural Equation Modelling, there are some rules that need to be taken into account related to sample size. A large sample size leads to the sampling error being minimised and a high likelihood that the result will be statistically significant (DeVellis, 2016). The number of participants affects the factor analysis strength;  $N < 300$  is considered to be weak,  $N = 300$  good and  $N = 400-500$  is excellent (Kline, 2015). In addition, researchers have agreed that the sample size is large if it is higher than 200 (Field, 2013; Hair et al., 2006). Moreover, Netemeyer et al. (2003) claimed that a sample size of 100-300 is sufficient. Based on their recommendations, 310 questionnaires were completed by customers.

- **Implementation**

After extensive research into jewellery stores in London, Hatton Garden street, which is considered a famous jewellery quarter in London, and the Dimond center trade in the UK and comprises over 87 different jewellery stores was chosen to conduct the research because this street made it easier for the researcher to reach as many customers as possible and spread the

questionnaires among them in a time- and cost-effective manner and the stores were randomly selected. There are two ways to approach the targeted customers, Firstly, the researcher introduced herself to managers, explained the purpose of the study and then got their approval to help her in distributing the surveys among customers. The second approach was to ask the customers politely whether they would be able to participate in the research by filling in the questionnaire. The participants were assured of the anonymity of the research. If they accepted, the researcher then gave them a brief explanation of survey's purpose and gave them time to answer the questions without interference. The researcher kept going to the stores to receive the completed questionnaires and distribute the surveys. Each survey was completed anonymously and there were no names or any contact details included on the questionnaire.

#### *4.3.1.2 Data analysis method*

The first stage of the data analysis method was to enter data from the questionnaires into SPSS (statistical package for social science, version 25). Before that, a specific variable name was given to each item in the survey and each response was given a numerical code. The following are the statistical methods used in this research to analyse the data collected from the questionnaires.

- Descriptive statistics are important to understand the respondents' characteristics. These types of statistics describe the essential characteristics of the data collected quantitatively by frequency and measures of central tendency. Field (2013) stated that the common types of descriptive analysis utilised are frequency, percentages, mean, median and standard deviation. In this research context, the descriptive statistics using frequency and percentage were suitable for analysis and described the data in terms of age, gender and education.
- Structural Equation Modelling (SEM) was used to evaluate the measurement model (a model of the relationship between a group of variables, measurement items and their own

latent variables tested using confirmatory factor analysis) and structural model (the hypothesised model which explains the casual relationship between variables) (Hair et al., 2006). The aim of analysing the structural hypothesised model is to identify whether the model is consistent with the data collected; the model consistency can be estimated through model data fit which specifies the extent to which the assumed relationships between variables are reasonable. The SEM analysis has advantages; for example, multiple regression analysis gives options for developing the model fit with the data by using Modification Indices (MI). Then the redundant items can be determined and a correlation can be made between them; this process is called covariance. SEM is associated with confirmatory (i.e., hypothesis testing) rather than exploratory methods and to check the validity of the hypothesised model (Hair et al., 2006), Amos 25 was the software tool utilised to perform SEM.

#### **4.4 Research reliability and validity**

Reliability and validity are considered important measures for research quality. Reliability refers to producing stable and consistent measures (Neuman, 2010). In this study, three indicators for evaluating reliability are used: Squared Multiple Correlation (SMC) “item reliability”, Construct Reliability (CR) and Cronbach's alpha.

Validity is the degree to which a test evaluates a proposed theoretical construct (Hair et al., 2006). Convergent validity and discriminant validity are applied to assess the validity of the measurement of the research concepts. Convergent validity specifies the degree to which the items of a construct converge or share a high proportion of variance in common (Hair et al., 2006). Meanwhile, discriminant validity is important to "test whether results which confirm

the hypothesised structural paths of constructs are real or whether they are a result of statistical discrepancies” (Farrell, 2010, p. 2).

## 4.5 Research ethics

Paying attention to ethical issues when conducting the research is regarded as critical in terms of protecting the interests of the participants and avoiding bias in the research findings (Easterby-Smith et al., 2012). Ethical considerations are important for social research (Burton, 2000). Three main ethical issues in social research have been classified by Kimmel (1988): 1) ethical standards which point out guidelines for social researchers developed by numerous professional organisations with the aim of directing social researchers; 2) procedural problems which relate to the data collection process such as informed consent and participant selection; 3) confidentiality and the right to privacy which are associated with respondents' privacy and guarding them from deception. In the current research, the ethical considerations related to the fieldwork were very consequential for the researcher. Each phase of the fieldwork was conducted based on the ethical principles of the University of Middlesex. Ethical approval was submitted by the researcher and officially approved by the research ethics committee of the business school.

As for the second ethical consideration (procedural problems), the participants were selected randomly and gave their “informed consent” before answering the questions. The participants were informed about the research purpose, indicating that participation is voluntary and their right to withdraw from completing the questionnaire at any time and they were assured that any information provided by them would be treated confidentially. Their anonymity was guaranteed and no name or personal contacts were asked for as a part of the survey and in order

to protect their privacy and gain their trust so that the questionnaire would be completed accurately (Saunders et al., 2009). Respondents were identifiable only by their gender, age and education level in the descriptive statistics analysis. This is consistent with the ethical standard related to the need to reduce any possible harm to respondents.

The researcher has taken into consideration all the comments obtained from the pilot study, regarding questionnaire wording and design. Therefore, the questionnaire was developed in a way that removed any confusion or misunderstanding. This process ensures meeting the ethical standard of removing any probability of respondent deception.

## 4.6 Chapter summary

This chapter has tried to shed light on the philosophical and methodological methods adopted in this research according to the research aims and questions. It has further discussed the ontological and epistemological paradigms, the approach as well as the research strategy and methods. A quantitative method was chosen as a suitable and relevant strategy for this research. This strategy was defined in terms of sampling strategy, data collection methods, data analysis methods and reliability and validity. In addition, ethical issues were covered when conducting the research process.

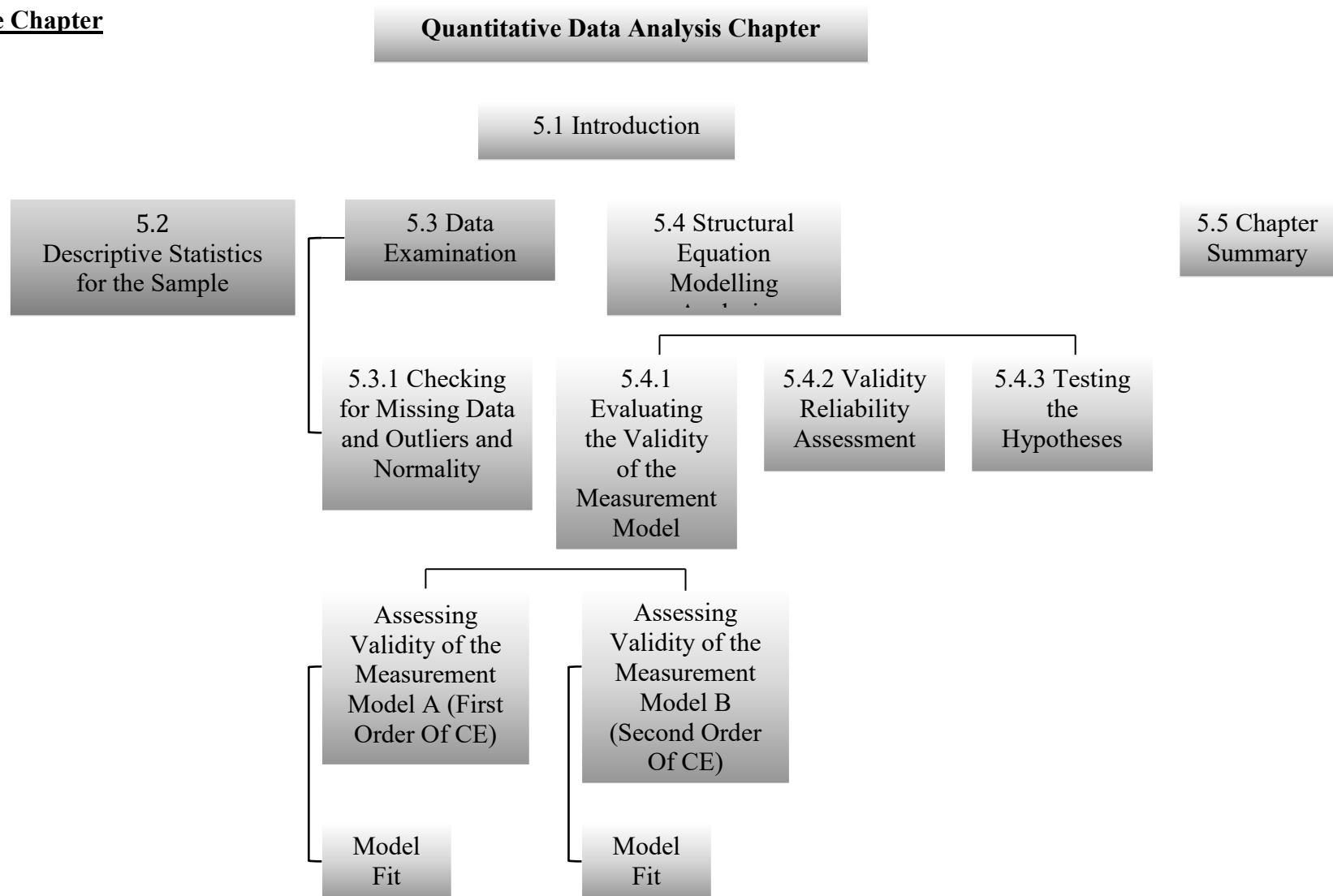
The next chapter focuses on analysing the data quantitatively and presenting the findings of the quantitative study.

## 5 QUANTITATIVE DATA ANALYSIS

### 5.1 Introduction

Statistical analysis for the research data and the findings for this analysis are presented in this chapter. The chapter starts with descriptive statistics for the sample, then, the data examination is undertaken to determine missing data, outliers and normality followed by testing the hypothesised model using SEM analysis. Results are discussed in this chapter.

## Structure of the Chapter



## 5.2 Descriptive statistics for the sample

In this section, the sample characteristics are described using descriptive statistics. These characteristics are related to the customers in the jewellery industry.

### **Descriptive statistics of characteristics of the respondents (age, gender and education):**

Respondents' ages ranged from 18 to over 65 years, with 17.4% identified as male and 82.6% female. < 10% reported being high school graduates, over 50% had a bachelor's degree and more than 15% had higher education (see Tables 5.1, 2 and 3). The results show that the largest percentage of the sample is female. This is potentially due to where data collection occurred, as the nature of jewellery making and selling depends on the female population as main consumers.

**Table 5-1 Demographic data**

| Variable  | Category             | Frequency | Percent |
|-----------|----------------------|-----------|---------|
| Age       | 18-24                | 40        | 12.9    |
|           | 25-34                | 99        | 31.9    |
|           | 35-44                | 78        | 25.2    |
|           | 45-54                | 49        | 15.8    |
|           | 55-64                | 26        | 8.4     |
|           | 65 or Over           | 18        | 5.8     |
|           | Total                | 310       | 100     |
| Gender    | Male                 | 54        | 17.4    |
|           | Female               | 256       | 82.6    |
|           | Total                | 310       | 100     |
| Education | High school graduate | 47        | 15.2    |
|           | Bachelor's degree    | 177       | 57.1    |
|           | Master's degree      | 50        | 16.1    |

|  |       |     |     |
|--|-------|-----|-----|
|  | PhD   | 12  | 3.9 |
|  | Other | 24  | 7.7 |
|  | Total | 310 | 100 |

## Two-way Tables

The results below are shown using two-way tables to present the differences in the demographic variables. Table 5-2 presents a two-way table for Gender and Age, Table 5-3 shows a two-way table for Gender and Education and Table 5-4 presents a two-way table for Age and Education.

**Table 5-2 Two-way table for gender and age**

| Gender /<br>Age | 18-24 | 25-34 | 35-44 | 45-54 | 55-64 | 65 or over |
|-----------------|-------|-------|-------|-------|-------|------------|
| <b>Male</b>     | 3     | 16    | 19    | 10    | 3     | 3          |
| <b>Female</b>   | 37    | 83    | 177   | 39    | 23    | 15         |

**Table 5-3 Two-way table for gender and education**

| Gender/<br>Education | High-school<br>graduate | Bachelor's<br>degree | Master's<br>degree | PhD | Other |
|----------------------|-------------------------|----------------------|--------------------|-----|-------|
| <b>Male</b>          | 4                       | 25                   | 51                 | 2   | 30    |
| <b>Female</b>        | 43                      | 152                  | 33                 | 10  | 18    |

**Table 5-4 Two-way table for age and education**

| Education / Age             | 18-24 | 25-34 | 35-44 | 45-54 | 55-64 | 65 or over |
|-----------------------------|-------|-------|-------|-------|-------|------------|
| <b>High-school graduate</b> | 30    | 5     | 2     | 1     | 7     | 2          |
| <b>Bachelor's degree</b>    | 8     | 72    | 49    | 24    | 10    | 4          |

|                        |   |    |    |   |   |    |
|------------------------|---|----|----|---|---|----|
| <b>Master's degree</b> | 0 | 17 | 19 | 6 | 7 | 1  |
| <b>PhD</b>             | 0 | 3  | 4  | 4 | 1 | 0  |
| <b>Other</b>           | 2 | 2  | 4  | 4 | 1 | 11 |

### 5.3 Data examination

Data examination contains three tasks: missing data, outliers and assuring that the multivariate analysis requirements are met by the data (Hair et al., 2010). All these tasks were implemented and discussed in this section. All the variables were measured using a Likert scale. The variables' codes used in the statistical analysis are described in Table 5.5 below.

**Table 5-5 Description of codes in statistical analysis**

| <b>Code</b> | <b>Code description</b>              |
|-------------|--------------------------------------|
| CEI         | Customer engagement (identification) |
| CEE         | Customer engagement (enthusiasm)     |
| CEA         | Customer engagement (attention)      |
| CEB         | Customer engagement (absorption)     |
| CEN         | Customer engagement (interaction)    |
| CCO         | Customer co-creation                 |
| NPS         | New product success                  |
| SE          | Shopping enjoyment                   |
| SR          | Social recognition                   |
| SA          | Social affiliation                   |
| PT          | Preferential treatment               |
| P           | Personalisation                      |

#### 5.3.1 Missing data, outliers, and normality

Missing data are typically present due to participants not having answered statements or having answered them incorrectly (Muijs, 2010). For this project, no missing data were found. Outliers

are defined by Pallant (2011) as observations with values much above or much below the majority of the rest of the data's values. For this study, boxplots were used to identify values out of range as being outliers (Leech et al., 2013). No outliers were found in the data. The scale used in the questionnaire for this study included seven points: 7 Strongly Agree, 6 Moderately Agree, 5 Agree, 4 Neither Disagree nor Agree, 3 Disagree, 2 Moderately Disagree, and 1 Strongly Disagree. Finney and DiStefano (2006) recommend treating ordinal data with five or more categories (e.g., five-point Likert-scale) as "continuous" variables. Therefore, the normality assumption was examined using skewness and kurtosis (Peat, 2005). Skewness values ranged between +3 and -3, which were all accepted according to Kline (2015). The kurtosis of each item was between +3 and -3, with the exception of some items (kurtosis of +10 to -10); however, these ranges were still accepted based on Kline (2015) (see Table 5.6).

**Table 5-6 Normality assessment using kurtosis and skewness**

|      | Normality |          |
|------|-----------|----------|
|      | Kurtosis  | Skewness |
| CEI1 | -.516     | -.124    |
| CEI2 | -.741     | -.214    |
| CEI3 | -.707     | -.122    |
| CEI4 | -.862     | -.150    |
| CEE1 | -.142     | -.493    |
| CEE2 | -.840     | -.384    |
| CEE3 | .108      | -.695    |
| CEE4 | -.617     | -.524    |
| CEE5 | .584      | -.941    |
| CEA1 | -.859     | -.398    |
| CEA2 | -.418     | -.420    |
| CEA3 | -.103     | -.395    |
| CEA4 | 2.170     | -.940    |
| CEB1 | .651      | -.550    |
| CEB2 | .902      | -.552    |
| CEB3 | 1.319     | -.729    |
| CEB4 | .822      | -.598    |
| CEB5 | .881      | -.626    |
| CEB6 | .732      | -.490    |
| CEN1 | 1.222     | -.864    |
| CEN2 | .653      | -.739    |
| CEN3 | .540      | -.652    |
| CEN4 | -.457     | -.489    |
| CEN5 | .483      | -.772    |
| CCO1 | .307      | -.482    |
| CCO2 | -.741     | .044     |
| CCO3 | -1.143    | -.081    |
| CCO4 | -1.035    | .081     |
| CCO5 | -.669     | .090     |
| CCO6 | -1.022    | .185     |
| CCO7 | -.795     | -.045    |
| SR1  | 1.960     | -1.334   |
| SR2  | 4.197     | -1.707   |
| SR3  | 1.034     | -1.276   |
| SE1  | 3.747     | -1.586   |
| SE2  | 2.100     | -1.314   |
| SE3  | 3.010     | -1.570   |
| SA1  | .981      | -.614    |
| SA2  | 1.973     | -1.064   |

|      |        |        |
|------|--------|--------|
| SA3  | 2.778  | -.962  |
| SA4  | -.640  | -.230  |
| PT1  | 2.414  | -1.791 |
| PT2  | 1.583  | -1.498 |
| PT3  | .936   | -1.368 |
| PT4  | 2.741  | -1.691 |
| PT5  | .572   | -1.109 |
| P1   | -.180  | -.519  |
| P2   | -.674  | -.525  |
| P3   | -.693  | -.520  |
| P4   | -.655  | -.701  |
| NPS1 | -.470  | .663   |
| NPS2 | -1.183 | -.012  |
| NPS3 | -.955  | -.057  |
| NPS4 | -1.173 | -.172  |
| NPS5 | -1.155 | -.209  |
| NPS6 | -1.460 | -.041  |

Furthermore, the Jarque-Bera test was conducted to check for normal distribution. The p-value of the test was **0.5647**. Since this p-value is not less than 0.05, we failed to reject the null hypothesis. We do not have sufficient evidence to say that the dataset is not normally distributed. Table 5-7 below represents these results.

**Table 5-7 Normality using Jarque-Bera**

| Skewness     | Kurtosis    | Jarque-Bera   | P-value       |
|--------------|-------------|---------------|---------------|
| <b>-1.09</b> | <b>1.86</b> | <b>106.53</b> | <b>0.5647</b> |

## 5.4 Structural Equation Modelling (SEM)

SEM was employed in this study to test the model of interest and examine the study model. It is a multivariate approach which is widely used in the social sciences. It simultaneously examines a series of interrelated dependence relationships among the measured variables and

latent constructs (variates) as well as between several latent constructs (Hair et al., 2010). Hair et al. (2012) indicated that SEM is very appropriate for the process of developing and testing theories. In addition, SEM is used for the whole model fit and provides statistical indicators to evaluate and modify the models of interest (Anderson and Gerbing, 1988; Kline, 2011). Since the constructs are the latent variables, it is not possible to directly measure them from the data (Zulu, 2007). Using confirmatory analysis, it is very important to define the relationships between items and the derived latent constructs (Turnbull, 1998). Confirmatory factor analysis (CFA) is used to build and test the measurement models which are used to investigate a phenomenon (Hair et al., 2010). CFA uses different indicators to assess the fit, validity and reliability for items, constructs, and the measurement model. The structural model for direct and indirect relationships between the constructs is used to represent the hypotheses of study using SEM (Hair et al., 2010).

## Goodness-of-fit

It is very important to identify to what extent the model of study fits the data (Hair et al., 2010). There are several indicators which are used to assess goodness-of-fit. There are different indices for goodness-of-fit such as absolute fit indices (Kline, 2011). For this study, six indices,  $\chi^2$ , RMR, SRMR, IFI, CFI and RMSEA were used (see Table 5.8).

**Table 5-8 Fit indices used for the study**

| Fit indices                             | Abbreviation | Acceptable level | Reference          |
|-----------------------------------------|--------------|------------------|--------------------|
| (CIMN/df)                               | $\chi^2$     | 1-3              | Hair et al. (2010) |
| Root Mean Square Error of Approximation | RMSEA        | $\leq 0.08$      | Kline (2005)       |

|                                        |      |             |                       |
|----------------------------------------|------|-------------|-----------------------|
| Root Mean Square Residual              | RMR  | $\leq 0.08$ | Hu and Bentler (1998) |
| Standardised Root Mean Square Residual | SRMR | $\leq 0.08$ | Hu and Bentler (1998) |
| Incremental Fit Index                  | IFI  | $\geq 0.90$ | Kline (2005)          |
| Comparative Fit Index                  | CFI  | $\geq 0.90$ | Kline (2005)          |

## Results of data analysis

The study aimed to assess the effect of factors on CCO and NPS based on the theoretical model. A designed questionnaire using a seven-point Likert scale was used. After collecting the data, Statistical Package for the Social Sciences (SPSS 25) was used for exploratory analysis, while SEM for the main data analysis and assessing model fit is provided. The chapter examines missing data and the normality assumption. CFA was conducted to assess and validate the model of study using fit indices, validity and reliability. The hypotheses of the study were tested using regression analysis which was based on the SEM.

### 5.4.1 Measurement model testing hypotheses

In the study model, customer co-creation (CCO) is considered as a mediation factor between the dependent and independent constructs. Accordingly, CCO as a mediation factor is useful in explaining and understanding the relationship effects between other constructs. The dependent factor is new product success (NPS). The independent variable is customer engagement (CE) which is based on five subconstructs: identification, enthusiasm, attention, absorption and interaction. The model is also based on five moderators: shopping enjoyment

(SE), social recognition (SR), social affiliation (SA), personalisation (P), preferential treatment (PT).

CFA was used to test three models: the first order of CE, CCO and the moderating factors, and 2) the dependence factor, and 3) the second order of CE, independent, NPS and the moderating factors (measurement model). Using CFA, it will be possible to formulate an appropriate model that the researcher aims to test. CFA used fit indices to be able to choose the best model from different models. Fit indices can be improved to reach the accepted threshold by excluding items with high modification indices or low squared multiple correlation. The deletion process will continue in the case of low fitting until accepted fit is reached.

### **Model fit improvement steps**

For model fit improvement, the misfit areas need to be specified. To disclose these areas, items' factor loading, modification indices and standardised residuals were checked. Items with weak factor loading were nominated for deletion and greater modification indices were considered as indicators of misfit (Hair et al., 2006; Kline, 2011). Moreover, when standardised residuals are significant, this is also considered a misfit issue (Hair et al., 2006).

As discussed above, poor items were dropped from the model and error terms of the same factor were also allowed to respectively correlate until a model fit reached its acceptable threshold..In the measurement model (the CFA model), 14 items out of the 56 included items showed weak factor loadings on their particular construct. The factor loading before and after dropping items are shown in Table 5.9.

**Table 5-9 Measurements before and after dropping items**

| Item code            | Factor loading before dropping item | Factor loading after dropping item |
|----------------------|-------------------------------------|------------------------------------|
| Customer Engagement  |                                     |                                    |
| CEI1                 | 0.81                                | 0.872                              |
| CEI3                 | 0.82                                | 0.693                              |
| CEI4                 | 0.75                                | 0.844                              |
| CEE2                 | 0.84                                | 0.800                              |
| CEE3                 | 0.88                                | 0.894                              |
| CEE4                 | 0.83                                | 0.843                              |
| CEE5                 | 0.75                                | 0.761                              |
| CEA1                 | 0.71                                | 0.722                              |
| CEA2                 | 0.79                                | 0.796                              |
| CEA3                 | 0.72                                | 0.726                              |
| CEA4                 | 0.74                                | 0.727                              |
| CEB1                 | 0.75                                | 0.812                              |
| CEB2                 | 0.81                                | 0.864                              |
| CEB3                 | 0.84                                | 0.850                              |
| CEB5                 | 0.80                                | 0.701                              |
| CEN2                 | 0.87                                | 0.851                              |
| CEN3                 | 0.87                                | 0.877                              |
| CEN4                 | 0.84                                | 0.860                              |
| CEN5                 | 0.82                                | 0.819                              |
| Customer Co-creation |                                     |                                    |
| CCO3                 | 0.76                                | 0.816                              |

|                             |      |       |
|-----------------------------|------|-------|
| <b>CCO4</b>                 | 0.80 | 0.879 |
| <b>CCO5</b>                 | 0.74 | 0.705 |
| <b>Customer Personality</b> |      |       |
| <b>SE1</b>                  | 0.93 | 0.920 |
| <b>SE2</b>                  | 0.95 | 0.958 |
| <b>SR1</b>                  | 0.85 | 0.850 |
| <b>SR2</b>                  | 0.90 | 0.903 |
| <b>SR3</b>                  | 0.85 | 0.850 |
| <b>SA2</b>                  | 0.82 | 0.789 |
| <b>SA3</b>                  | 0.92 | 0.966 |
| <b>SA4</b>                  | 0.78 | 0.764 |
| <b>PT1</b>                  | 0.78 | 0.786 |
| <b>PT2</b>                  | 0.85 | 0.853 |
| <b>PT3</b>                  | 0.90 | 0.903 |
| <b>PT4</b>                  | 0.88 | 0.875 |
| <b>P2</b>                   | 0.77 | 0.737 |
| <b>P3</b>                   | 0.83 | 0.862 |
| <b>P4</b>                   | 0.76 | 0.773 |
| <b>New Product Success</b>  |      |       |
| <b>NPS2</b>                 | 0.75 | 0.689 |
| <b>NPS4</b>                 | 0.85 | 0.842 |
| <b>NPS5</b>                 | 0.85 | 0.890 |
| <b>NPS6</b>                 | 0.82 | 0.837 |

After items were deleted, such as NPS1=0.13, CCO2=0.25, CCO1=0.46, the model was then re-run. The results for the measurement model showed a better model fit. For instance, the values of CCO3 and CCO4 improved from (0.76) and (0.80) to (0.816) and (0.879). The NPS5 and NPS6 values also increased from (0.85) and (0.82) to (0.890) and (0.837). The model did not fit the data sufficiently and an additional model check was needed.

Modification indices were inspected and high modification indices (MI) were disclosed between several pairs of error terms associated with items of the same constructs.

Consequently, these pairs of error terms were allowed to correlate if they were related to items measuring the same factor. The measurement model was run one more time once the items had been dropped and on the basis of the suggested changes in the modification indices. The result of the final CFA measurement model is based on all the model constructs (figure 5.4) and showed an adequate model fit as presented in Table 5.14.

### **CFA results:**

The mode first order of CE, mediation (CCO) and the moderating factors (SE, SR, SA, P and PT) are presented in Figure 5.1. All items were input for first iteration, and fit indices were computed. Table 5.10 shows that the resulting fit indices for RMR, SRMR, IFI and CFI did not satisfy the accepted threshold (CMIN/df = 2.57, RMR = .069, SRMR = .070, IFI = .849, CFI = .847, RMSEA = .071). Items with poor factor loadings were dropped and looking at MI, high MIs were disclosed between several pairs of error terms associated with the items of the same constructs and then the model was re-run. This process continued until the fit indices reached an accepted threshold. The final mode was presented in Figure 5.2. Table 5.10 shows that all the indices reached the accepted threshold (CMIN/df = 2.08, RMR = .044, SRMR

=.044, IFI = .922, CFI=.921, RMSEA = .059). All the items showed a standardised coefficient higher than 0.40.

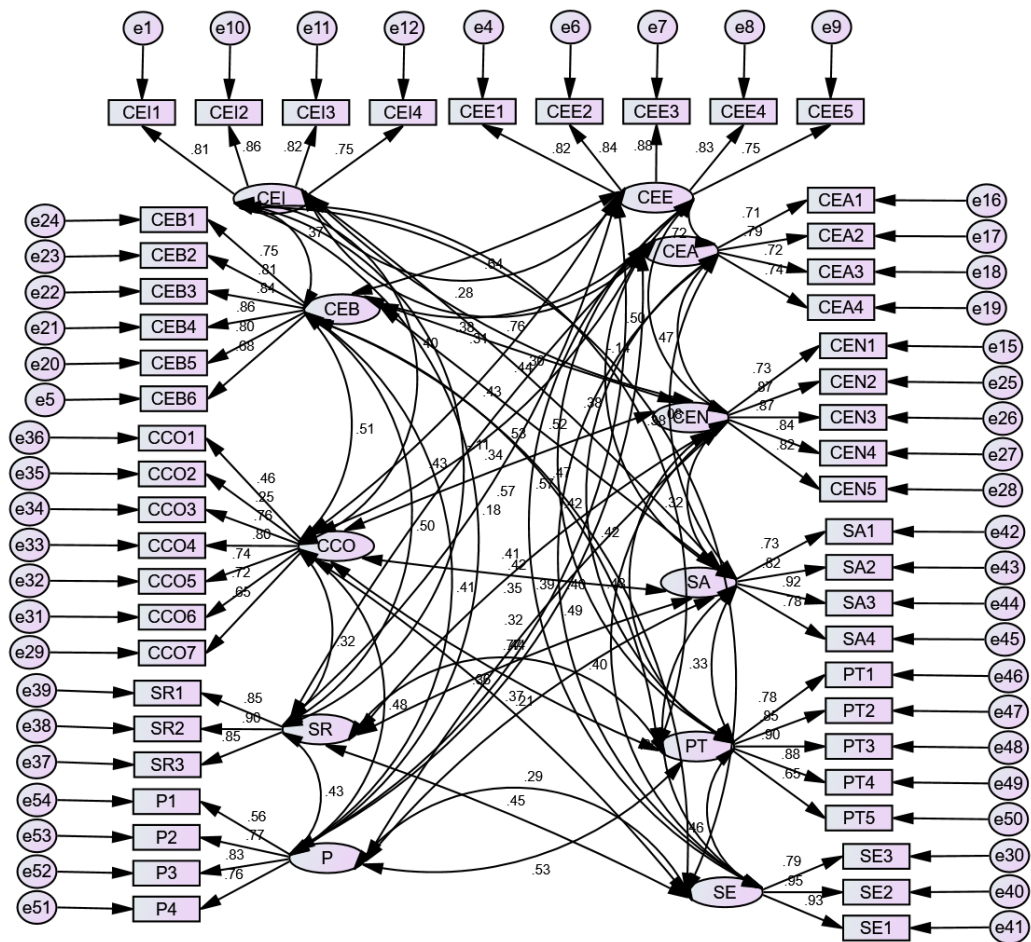


Figure 5-1 Model for the first order of CE, mediation (CCO) and the moderating factors (SE, SR, SA, P and PT) (Model A).

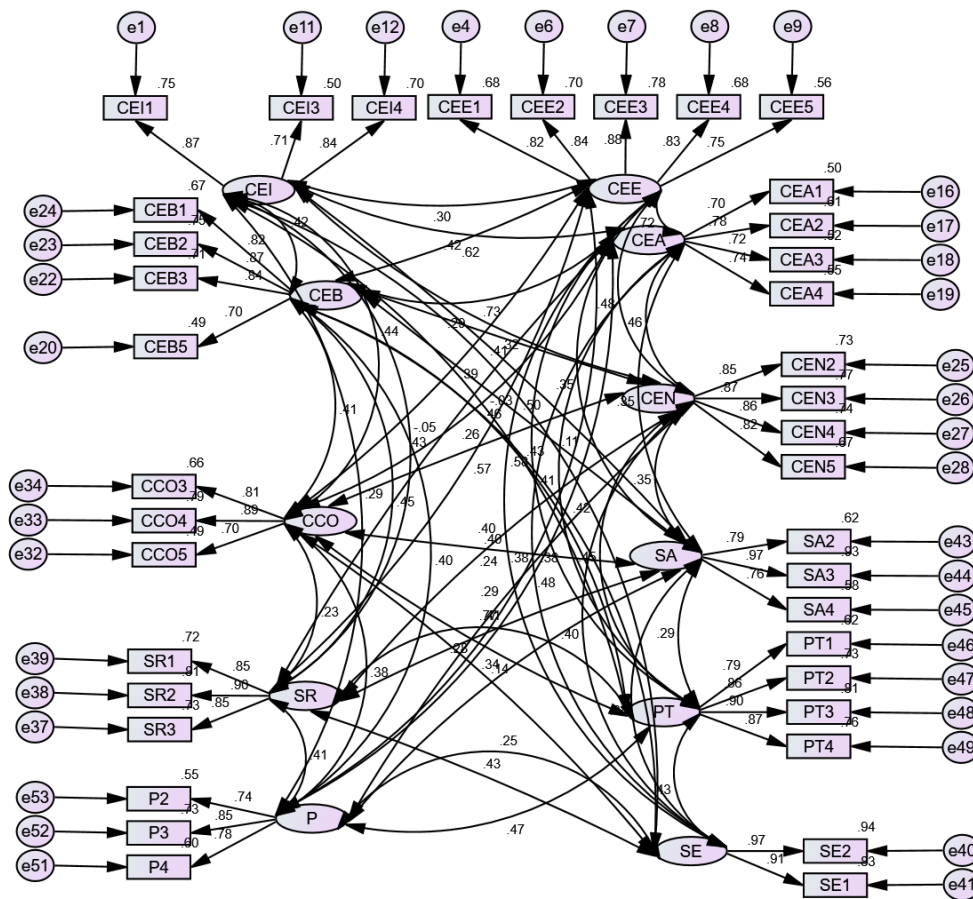


Figure 5-2 Model for first order of CE, mediation (CCO) and the moderating factors (SE, SR, SA, P and PT) for the final iteration (Model A).

Table 5-10 Results of fit indices for the first order, mediation (CCO) and the moderating factors (SE, SR, SA, P and PT)

|                 | $\chi^2$ | RMR  | SRMR | IFI  | CFI  | RMSEA |
|-----------------|----------|------|------|------|------|-------|
| First iteration | 2.571    | .069 | .070 | .849 | .847 | .071  |
| Final iteration | 2.085    | .044 | .044 | .922 | .921 | .059  |

The dependent variable NPS consisted of six items (see Figure 5.3). Using CFA, the fit indices were below the accepted threshold (CMIN/df = 8.308, RMR = .058, SRMR = .0505, IFI = .850, CFI = .848, RMSEA = .154) (see Table 5.11). To improve the model fitting, two items (NPS1 and NPS3) were excluded. Repeating the analysis without those items, all the indices reached

the accepted threshold (CMIN/df = 1.83, RMR = .009, SRMR =.012, IFI = .998, CFI=.998, RMSEA = .052). All the items showed a standardised coefficient higher than 0.40.

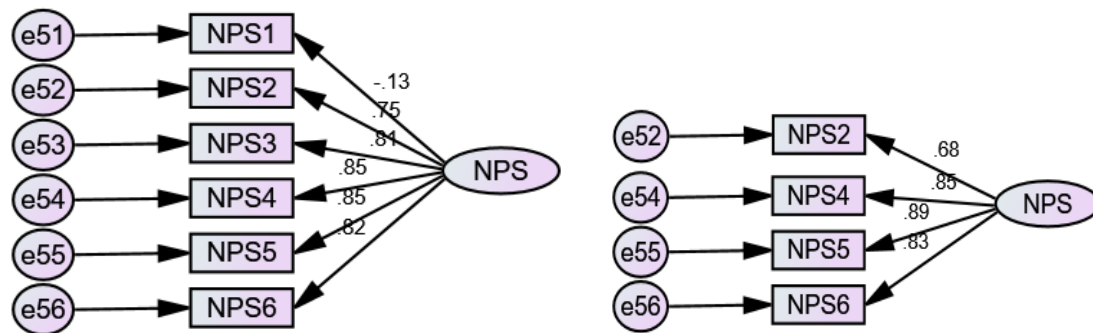


Figure 5-3 Model for NPS (dependent variable) initial (LHS) final (RHS) iterations

Table 5-11 Results of fit indices for the first order of the measurement model

|                 | $\chi^2$ | RMR  | SRMR  | IFI  | CFI  | RMSEA |
|-----------------|----------|------|-------|------|------|-------|
| First iteration | 8.308    | .058 | .0505 | .850 | .848 | .154  |
| Final iteration | 1.826    | .009 | .012  | .998 | .998 | .052  |

The measurement model is based on all the model's constructs (see Figure 5.4). The fit indices were within the accepted threshold (CMIN/df = 1.99, RMR = .069, SRMR =.067, IFI = .917, CFI=.917, RMSEA = .057). All the items showed a standardised coefficient higher than 0.40 (see Table 5.12).

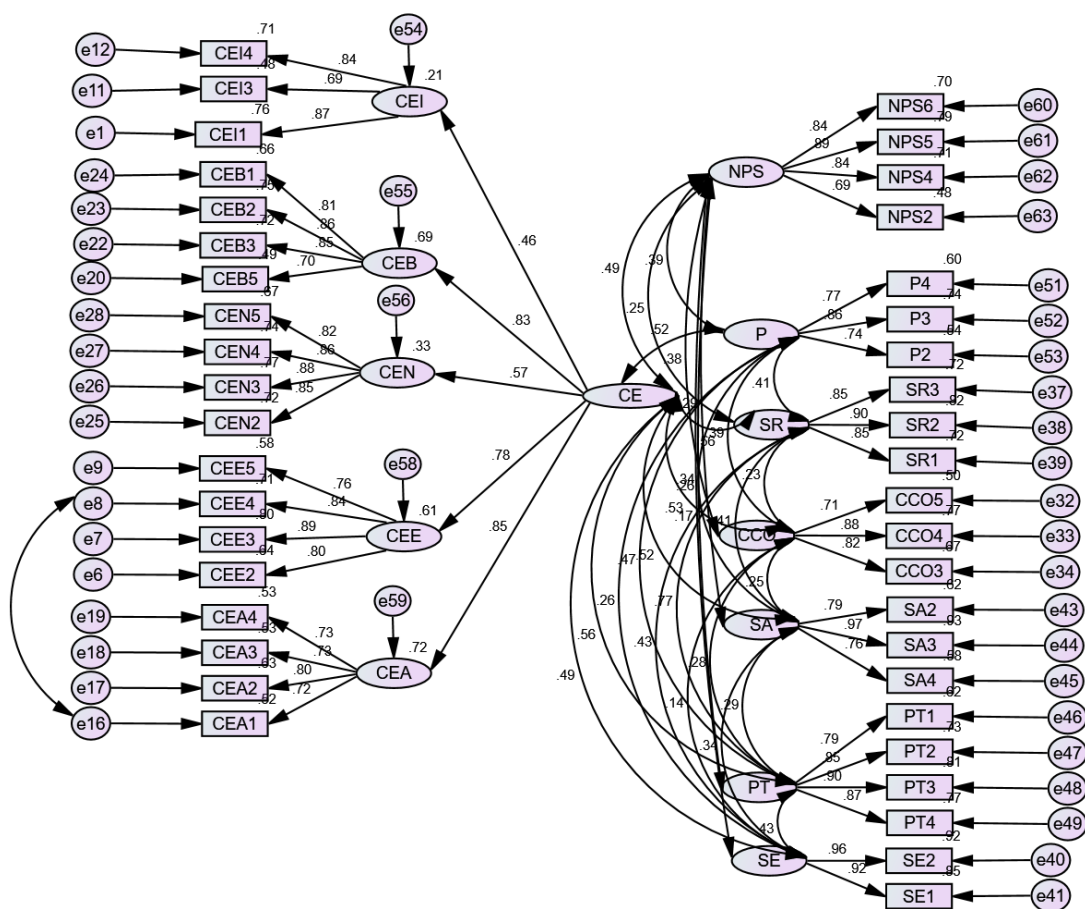


Figure 5-4 Measurement model using dependent factor (NPS), the second order of CE, mediation (CCO) and the moderating factors (SE, SR, SA, P and PT) (Model B).

Table 5-12 Fit indices for measurement model using dependent factor (NPS), the second order of CE, mediation (CCO) and the moderating factors (SE, SR, SA, P and PT).

| $\chi^2$ | RMR  | SRMR  | IFI  | CFI  | RMSEA |
|----------|------|-------|------|------|-------|
| 1.994    | .069 | .0670 | .917 | .917 | .057  |

## 5.4.2 Validity and reliability assessment

### 5.4.2.1 Validity

Validity is defined as “how well the conceptual and operational definitions match each other” (Neuman, 2006). There are different indicators to assess the validity of the measurement model: unidimensionality, convergent and discriminant validity (Hair Jr et al., 2016; Lomax and

Schumacker, 2004; Sekaran and Bougie, 2016). **Unidimensionality** is the degree to which items load only on corresponding constructs without having “parallel correlational pattern(s)” (Segars, 1997). To achieve unidimensionality, items should reach acceptable positive factor loadings. All factor loadings for every item should exceed 0.5 (Segars, 1993; Zainudin, 2010). **Discriminant Validity** is important to test "whether results confirming hypothesised structural paths of constructs are real or whether they are a result of statistical discrepancies" (Farrell, 2010, p. 2), which is known as discriminant validity (Segars, 1997; Zainudin, 2010). The validity requires that the square root of Average Variance Extracted (AVE) for each construct is more than its correlation with other constructs (Guo et al., 2011). In addition, **Convergent Validity** also requires there to be relationships between the observed variables and the constructs (Lomax and Schumacker, 2004). Convergent validity specifies the degree to which the items of a construct converge or share a high proportion of variance in common (Hair et al., 2010). To achieve convergent validity, each item loading in the construct needs to exceed 0.50 (Gefen and Straub, 2005; Hair et al., 2010). Convergent validity is also achieved if the factor loading of the item is significant using critical ratio (CR) (Holmes-Smith, 2011). If the value is close to 0.70 and corresponding loadings were higher than 0.50 and very highly significant, convergent validity was supported.

Table 5.13 shows the discriminant validity of the model. It was observed that the square root of AVE for each construct (diagonal of values in the table) was more than its correlation with other constructs, and the model achieved a satisfactory level of discriminant validity.

Convergent validity which evaluates relationships between the observed variables and the constructs is obtained by the AVE for every construct. Table 5.14 shows that the AVE was

higher than 0.80 for almost all of the items. The lowest AVE was seen for CE which was .563, which was >0.50, and hence the convergent validity of CE was supported.

All factor loadings should be positive and exceed 0.5 to satisfy unidimensionality. Table 5.14 indicates that all the items had positive factor loading and were much higher than 0.5.

**Table 5-13 Inter-correlation matrix for discriminant validity**

|     | SE           | CCO          | SR           | SA           | PT           | P            | CE           | NPS          |
|-----|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| SE  | <b>0.939</b> |              |              |              |              |              |              |              |
| CCO | 0.144        | <b>0.803</b> |              |              |              |              |              |              |
| SR  | 0.431        | 0.235        | <b>0.868</b> |              |              |              |              |              |
| SA  | 0.338        | 0.247        | 0.414        | <b>0.844</b> |              |              |              |              |
| PT  | 0.429        | 0.280        | 0.767        | 0.288        | <b>0.855</b> |              |              |              |
| P   | 0.258        | 0.386        | 0.407        | 0.343        | 0.472        | <b>0.792</b> |              |              |
| CE  | 0.494        | 0.526        | 0.563        | 0.516        | 0.558        | 0.517        | <b>0.716</b> |              |
| NPS | 0.174        | 0.376        | 0.250        | 0.294        | 0.257        | 0.395        | 0.487        | <b>0.818</b> |

*Diagonal values were the square root of AVE for each construct.*

#### 5.4.2.2 Reliability

Reliability refers to producing stable and consistent measures (Neuman, 2010). For this study, three indicators for evaluating reliability are used: Squared Multiple Correlation (SMC) “item reliability”, Construct Reliability (CR) and Cronbach's alpha. **SMC** explains the amount of variation of one variable due to change in the other observed variables (Lomax and Schumacker, 2004). If SMC exceeds 0.50, then the observed item has good reliability for the construct, and 0.30 is considered an acceptable level (Holmes-Smith, 2011). From Table 5.14, all of the items exceeded 0.5. Meanwhile CR is used to measure the internal consistency of all the items representing a corresponding construct (Holmes-Smith, 2011). A CR value of more than 0.70 is good, and if it is slightly less than 0.70, the CR is still acceptable (Bagozzi and Yi, 2012). As is shown in Table 5.14, the values for CR for all constructs were > 0.70, and hence the constructs of the underlying model are reliable. Moreover, **Cronbach's alpha** is also computed for measuring internal consistency (Mallery and George, 2003). George and Mallery

(2012) suggested a rule of thumb for Cronbach's alpha:  $\alpha > 0.9$  – excellent;  $\alpha > 0.8$  – good;  $\alpha > 0.7$  – acceptable;  $\alpha > 0.6$  – questionable;  $\alpha > 0.5$  – poor; and  $\alpha < 0.5$  – unacceptable, so that reliability for each construct model is obtained. From Table 5.14, the values for Cronbach's alpha ranged from good ( $>0.80$ ) to excellent ( $>0.90$ ), and hence the reliability of the underlying model was very satisfactory.

**Table 5-14 Validity and reliability for measured model**

|     | Item retained | Factor loading | Cortical value | p-value | R <sup>2</sup> | Composite reliability (CR) | AVE   | Cronbach's alpha |
|-----|---------------|----------------|----------------|---------|----------------|----------------------------|-------|------------------|
| CCO | CCO5          | .705           | 12.756         | ***     | .498           | 0.844                      | 0.645 | 0.839            |
|     | CCO4          | .879           | 15.077         | ***     | .773           |                            |       |                  |
|     | CCO3          | .816           |                |         | .666           |                            |       |                  |
| SR  | SR3           | .850           |                |         | .723           | 0.902                      | 0.753 | 0.900            |
|     | SR2           | .903           | 20.241         | ***     | .816           |                            |       |                  |
|     | SR1           | .850           | 18.553         | ***     | .722           |                            |       |                  |
| SE  | SE2           | .958           |                |         | .919           | 0.937                      | 0.882 | 0.937            |
|     | SE1           | .920           | 17.985         | ***     | .847           |                            |       |                  |
| SA  | SA2           | .789           |                |         | .623           | 0.881                      | 0.713 | .869             |
|     | SA3           | .966           | 17.499         | ***     | .934           |                            |       |                  |
|     | SA4           | .764           | 14.820         | ***     | .584           |                            |       |                  |
| PT  | PT1           | .786           |                |         | .618           | 0.916                      |       | 0.915            |
|     | PT2           | .853           | 16.753         | ***     | .727           |                            |       |                  |
|     | PT3           | .903           | 18.024         | ***     | .815           |                            |       |                  |
|     | PT4           | .875           | 17.319         | ***     | .765           |                            |       |                  |
| P   | P4            | .773           |                |         | .597           | 0.834                      | 0.628 | 0.831            |
|     | P3            | .862           | 13.910         | ***     | .744           |                            |       |                  |
|     | P2            | .737           | 12.568         | ***     | .543           |                            |       |                  |
| CE  | CEI1          | .872           |                |         | .760           | 0.834                      | 0.563 | .918             |
|     | CEE2          | .800           |                |         | .641           |                            |       |                  |
|     | CEE3          | .894           | 17.895         | ***     | .799           |                            |       |                  |
|     | CEE4          | .843           | 16.755         | ***     | .710           |                            |       |                  |
|     | CEE5          | .761           | 14.569         | ***     | .579           |                            |       |                  |
|     | CEI3          | .693           | 12.778         | ***     | .480           |                            |       |                  |
|     | CEA1          | .722           |                |         | .521           |                            |       |                  |
|     | CEA2          | .796           | 12.902         | ***     | .634           |                            |       |                  |
|     | CEA3          | .726           | 11.851         | ***     | .527           |                            |       |                  |
|     | CEA4          | .727           | 11.877         | ***     | .529           |                            |       |                  |
|     | CEB5          | .701           | 13.214         | ***     | .491           |                            |       |                  |
|     | CEB3          | .850           | 16.984         | ***     | .722           |                            |       |                  |
|     | CEB2          | .864           | 17.354         | ***     | .747           |                            |       |                  |
|     | CEB1          | .812           |                |         | .660           |                            |       |                  |
|     | CEN2          | .851           |                |         | .724           |                            |       |                  |
|     | CEN3          | .877           | 19.555         | ***     | .770           |                            |       |                  |
|     | CEN4          | .860           | 18.944         | ***     | .739           |                            |       |                  |
|     | CEN5          | .819           | 17.562         | ***     | .671           |                            |       |                  |
|     | CEI4          | .844           | 15.151         | ***     | .712           |                            |       |                  |

|     |      |      |        |     |      |       |       |      |
|-----|------|------|--------|-----|------|-------|-------|------|
| NPS | NPS6 | .837 |        |     | .700 | 0.889 | 0.669 | .885 |
|     | NPS5 | .890 | 18.786 | *** | .791 |       |       |      |
|     | NPS4 | .842 | 17.537 | *** | .709 |       |       |      |
|     | NPS2 | .689 | 13.283 | *** | .475 |       |       |      |

**Table 5-15 Cronbach's alpha for customer engagement constructs**

| <b>Variable</b>       | <b>Cronbach's alpha</b> |
|-----------------------|-------------------------|
| <b>Identification</b> | .882                    |
| <b>Enthusiasm</b>     | .913                    |
| <b>Attention</b>      | .825                    |
| <b>Absorption</b>     | .909                    |
| <b>Interaction</b>    | .913                    |

Moreover, Cronbach's alpha was also computed for customer engagement constructs and ranged from .825 to .913, which is considered an excellent level (George, 2011).

### 5.4.3 Testing the hypotheses

After ensuring the measurement model satisfied all the assumptions (fit, validity and reliability), the model hypotheses were tested. The model for this study used CFA to fit the eight constructs using SEM (see Figure 5.5). Also, the model was tested in terms of the effect of the moderating variables: SE, SR, SA, P, and PT.

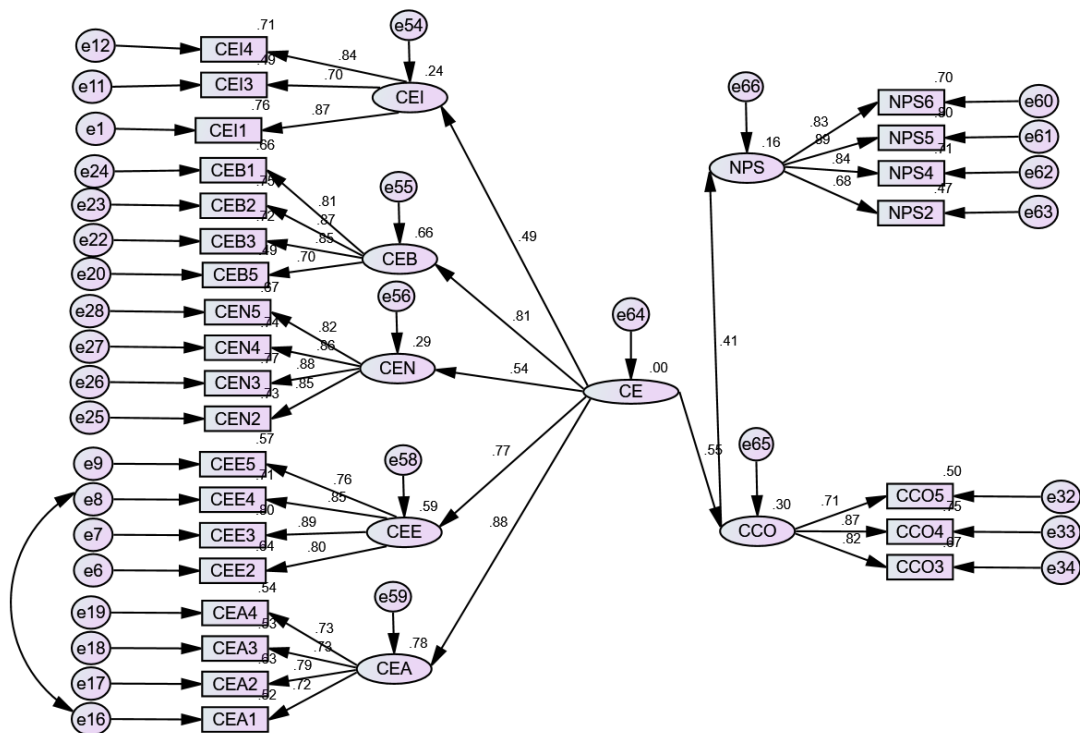


Figure 5-5 Results of SEM of the research model

From Table 5.16, the effect of CE on the CCO was positive and statistically significant ( $\beta=.727$ ,  $p\text{-value}<.001$ ), and hence H1 “Customer engagement is positively associated with co-creation” was accepted. CCO showed a significant positive effect on NPS ( $\beta=.380$ ,  $p\text{-value}<.001$ ), and hence H7 “Customer co-creation is positively associated with new product success” was accepted.

Table 5-16 Regression weights of the basic research model

| Variable | Effect direction | Variable | Estimate | SE   | CR    | P   | Result       |
|----------|------------------|----------|----------|------|-------|-----|--------------|
| CCO      | <---             | CE       | .727     | .122 | 5.956 | *** | H1 supported |
| NPS      | <---             | CCO      | .380     | .060 | 6.328 | *** | H7 supported |

Notes: \*\*\*  $p\text{-value} < 0.001$  (very highly significant); \*\*  $p\text{-value} < 0.05$  (highly significant); \*  $p\text{-value} < 0.10$  (significant)

## Testing the moderating effect of customer personality traits

A multi-group causal analysis was employed to test the moderating effect of customer personality traits on engaging customers in the co-creation process. Since the distribution of moderators was somewhat asymmetric, the median was used to split moderators into low ( $<\text{median}$ ) and high ( $\geq\text{median}$ ), as suggested by Hair et al. (2010) and Byrne (2009). Furthermore, the median split method has been conducted in marketing literature (e.g. Guèvremont and Grohmann, 2016; Jaworski and MacInnis, 1989) and it is popular in moderation effect tests (Martin et al., 2020; Wei et al., 2020).

In order to approach a significant path using multi group CFA, a critical ratio difference test is utilised in this study. Critical ratio comprises a Z score (Byrne, 2009); the structural weights are not similar between the two groups if the test is statistically significant, and there is a moderation effect if the difference in weight is significant, indicating that there are non-equivalent paths (Hair et al., 2010). The Z score was tested between the groups to identify that their paths were significantly different. Byrne (2009) stated that a chi-square test with 1 degree of freedom produces the same result for the Z-test for a difference between proportion. Z score can be obtained by dividing the regression weight estimate of its standard error. In order to get a multi group CFA result in the easiest way, a new package which is called the Stats Tools Package (STP) is used in this method. To determine the Z score for every variable in the database, the output box "critical ration for difference" is selected. In other words, the Z score can be achieved from the critical ratio difference outcome in Amos and then the outcome can be imported into STP. According to Byrne (2009), critical ratio (Z score) is used to identify significant differences between groups for each path of interest. A significant difference is determined by a critical ration greater than 1.65 for 90% confidence ( $p<0.10$ ), 1.96 for 95% ( $p<0.05$ ) and 2.58 for 99% ( $p<0.01$ ).

**Table 5-17 The moderation effect**

| Variable | Effect direction | Variable | Moderation |         |          |         |         | Result           |
|----------|------------------|----------|------------|---------|----------|---------|---------|------------------|
| CCO      | <---             | CE       | Low SE     |         | High SE  |         | z-score | H2 supported     |
|          |                  |          | Estimate   | p-value | Estimate | p-value |         |                  |
|          |                  |          | 1.040      | 0.000   | 0.457    | 0.000   |         |                  |
|          |                  |          | Low SR     |         | High SR  |         | z-score | H3 supported     |
|          |                  |          | Estimate   | p-value | Estimate | p-value |         |                  |
|          |                  |          | 0.935      | 0.000   | 0.404    | 0.000   |         |                  |
|          |                  |          | Low SA     |         | High SA  |         | z-score | H4 not supported |
|          |                  |          | Estimate   | p-value | Estimate | p-value |         |                  |
|          |                  |          | 1.821      | 0.122   | 0.520    | 0.000   |         |                  |
|          |                  |          | Low PT     |         | High PT  |         | z-score | H5 supported     |
|          |                  |          | Estimate   | p-value | Estimate | p-value |         |                  |
|          |                  |          | 0.850      | 0.000   | 0.433    | 0.000   |         |                  |
|          |                  |          | Low P low  |         | High P   |         | z-score | H6 not supported |
|          |                  |          | Estimate   | p-value | Estimate | p-value |         |                  |
|          |                  |          | 2.967      | 0.346   | 0.426    | 0.000   |         |                  |
|          |                  |          |            | -0.807  |          |         |         |                  |

\*\* *p-value* <.05 (highly significant); \* *p-value*<.10 (significant)

**H2: As shown in Table 5.17, Z score for SE=1.79 ( $p<.10$ ) was significant for the customer engagement-co-creation link, greater than 1.65 ( $P<0.10$ ).**

H2 proposed a positive moderating effect of shopping enjoyment on the relationship between customer engagement and co-creation. The results showed that the relationship between customer engagement and co-creation was stronger when shopping enjoyment is high. Hence, shopping enjoyment positively moderated the effect of customer engagement on customer co-creation.

**H3: The Z score for SR =2.42 ( $p<.05$ ) was significant for the customer engagement-co-creation link, greater than 1.95 ( $P<0.05$ ).**

H3 proposed a positive moderating effect of social recognition on the relationship between customer engagement and co-creation. The results showed that the relationship between

customer engagement and co-creation was stronger when social recognition is high. Hence, social recognition positively moderated the effect of customer engagement on customer co-creation.

**H4: The Z score for SA = -1.10 (p-value= 0.122) was not significant for the customer engagement-co-creation link, being below the critical value (Z score) of 1.65 ( $p < .10$ ).**

H4 proposed a positive moderating effect of social affiliation on the relationship between customer engagement and co-creation. Unexpectedly, the results showed that the relationship between customer engagement and co-creation was stronger when social affiliation is low. That is, social affiliation negatively moderated the effect of customer engagement on customer co-creation which means a higher level of social affiliation leads to a lower level of engaging customers in the co-creation process, contrary to Hypothesis 4.

**H5: The Z score for PT =1.83 ( $p < .10$ ) was significant for the customer engagement-co-creation link, being greater than 1.65 ( $P < 0.10$ ).**

H5 proposed a positive moderating effect of preferential treatment on the relationship between customer engagement and co-creation. The results showed that the relationship between customer engagement and co-creation was stronger when preferential treatment is high. Therefore, preferential treatment positively moderated the effect of customer engagement on customer co-creation.

**H6: As shown in Table 5.17, the Z score for P =0.807 ( $p = 0.346$ ) was not significant for the customer engagement-co-creation link, being lower than 1.65 ( $P < 0.10$ ).**

H6 proposed a positive moderating effect of personalisation on the relationship between customer engagement and co-creation. The results showed that the relationship between

customer engagement and co-creation was stronger when personalisation is low. Hence, personalisation negatively moderated the effect of customer engagement on customer co-creation.

## Mediation Effects

- **H8:** *Customer Co-creation mediates the relationship between customer engagement and new product success.*

The mediating effect was assessed using indirect effect analysis, as recommended by Preacher et al. (2007). Bootstrapping analysis was conducted to ascertain the mediating effect of the mediator, using a 95% confidence interval. Although there are other methods (e.g., Baron and Kenny's approach coupled with Sobel's test) that can equally test the mediating effect of the mediator, recent studies (e.g., Preacher et al., 2007; Preacher and Hayes, 2004; Rucker et al., 2011) state that bootstrapping analysis has the ability to overcome the flaws of Sobel's test in testing the significance of the mediator. Based on the aforementioned methodological recommendations, bootstrapping analysis was employed to test the mediation effect. Table 5-18 summarises these results.

**Table 5-18 The mediation effect**

|                                                | $\beta$ | $P$   |
|------------------------------------------------|---------|-------|
| CE $\longrightarrow$ CCO                       | 0.552   | 0.001 |
| CCO $\longrightarrow$ NPS                      | 0.000   | 0.001 |
| CE $\longrightarrow$ CCO $\longrightarrow$ NPS | 0.224   | 0.001 |

**H8** predicted that customer co-creation mediates the relationship between customer engagement and new product success. To augment the evidence of the indirect effect, we bootstrapped the model to produce a bias-corrected confidence interval for the standardised parameter estimate as recommended by Preacher and Hayes (2004) and Shrout and Bolger (2002), utilising a validation sample of (n = 2,000). The indirect effect of customer engagement

on new product success through customer co-creation was ( $\beta = .224, p < .001$ ). Bias-corrected estimates further confirm this finding ( $p = .000$ , 95% confidence interval: .075 – .188). A full mediation effect was uncovered, thus **H8** was supported (see Table 5-18).

## 5.5 Chapter summary:

The data were statistically analysed in this chapter. Descriptive statistics analysis was carried out to highlight the main characteristics of the sample. The data examination regarding missing data, outliers and normality was applied before using SEM analysis. Then SEM analysis was used in two phases to test the research model. The first phase, the measurement model, was assessed by confirmatory factor analysis (CFA) to confirm the validity of the research measurement model. The validity of the model was proven by goodness-of-fit statistics. In the second phase of SEM, the structural model was examined to validate the hypotheses. After confirming the validity of the model, five out of seven hypotheses were accepted. The next chapter discusses the results obtained statistically and assesses them in the light of findings from previous studies.

## 6 DISCUSSION AND CONCLUSION

### 6.1 Introduction

This chapter provides the main conclusions of the research. It begins by discussing the achievement of the research aims and research questions briefly and then addresses the objectives of the study and the empirical results of statistical analysis, comprising the empirical findings of the quantitative study and previous literature with the aim of answering the research questions. Then the research conclusion is presented. Then, the research implications and contributions from theoretical and managerial viewpoints are explained. Finally, the research limitations and future research are provided.

### 6.2 The achievement of the research aim and research questions

The objective of this study was to investigate how engaging customers in the co-creation process can affect new product success and how this relationship can be affected by customer personality traits including personalisation, shopping enjoyment, social affiliation, social recognition and preferential treatment. In order to fulfil these objectives, three research questions were formed that contributed to achieving the overall aim:

- How can engaging customers change co-creation?
- How can customers' personalities affect the relationship between customer engagement and customer co-creation?
- How can new product success be influenced by engaging customers in the new product development process?

The next section covers the research objectives and questions and offers the results of the associated hypotheses. The findings are critically assessed based on the objectives of the research and integrated with the appropriate literature and the quantitative study findings.

### **6.2.1 Addressing the objectives**

#### ***6.2.1.1 Customer engagement and co-creation***

The objective of this hypothesis was to examine whether customer engagement is associated with customer co-creation. The fundamental result of this study reveals that the effect of customer engagement on customer co-creation is positive and statistically significant. The firm can benefit from their customers by engaging them in the value creation process so the firm can obtain information and feedback and also benefit from customer skills and ideas.

The customer plays an important role in the co-creation process with the firm to create value. Nambisan (2002) pointed out that customers can be engaged not only at the idea generation stage but their role goes beyond that to joint creation of value with the firm in providing feedback, engaging in product design and continuous development, voting and discussing these ideas to assist the firms to find a good solution that can benefit them and their customers (Bayus, 2013). The current study found that the organisation can gain the maximum benefit from their client through satisfying their needs and knowing their preferences by making them engaged in the process of co-creation. The findings of this research are consistent with the previous study by Ngo and O'Cass (2009); they found that clients like to be engaged with the firm and the companies look for more interaction and engagement with their customers which might make them participate in the co-creation process. Moreover, Brodie et al. (2011) highlighted that the customer engagement concept is considered to be a concept related to co-creation, as it comprises client behaviour and cognition and concentrates on the relationship

with the company. Additionally, The current research found that the most relevant customer engagement dimensions for customer co-creation based on standardised estimate are attention ( $\beta=0.368$ ), absorption ( $\beta=0.172$ ), identification ( $\beta=0.096$ ), enthusiasm ( $\beta=0.089$ ) and interaction ( $\beta=0.07$ ) respectively. Customers who pay more attention to the brand and who like learning about it (attention dimension) tend to engage in the co-creation process more than customers who feel fully focused on the firm and happy playing a role in it (absorption). Meanwhile, those customers who are concentrated on the firm tend to engage with the firm in terms of idea generation, provide suggestions and other co-creation stages more than customers who feel belongingness to the firm (identification) but this kind of customer tends to engage in the new product development process more than those who just feel excited about the firm (enthusiasm). However, customers who enjoy interacting with like-minded others in the firm (interaction) represented the least relevant customer engagement dimension for the customer co-creation process.

This finding contributes to a better understanding of co-creation through customer engagement and sheds light on which dimension of customer engagement is most relevant to customer co-creation.

### ***6.2.1.2 Moderating factors (customer personality traits)***

#### ***6.2.1.2.1 Shopping enjoyment***

The fundamental result of the present study reveals that the relationship between customer engagement and co-creation can be strengthened by shopping enjoyment, implying that the more a customer enjoys shopping, the more the customer feels enthusiastic and attached to the firm and they are more likely to engage in the new product development process. It was found that the relationship between customer engagement and co-creation is stronger when shopping enjoyment is high. Engaging customers in developing a new product is easier when the

customers enjoy shopping and find it a pleasurable way to spend their spare time, so these kinds of customers tend to engage in the new product development process more fully than customers who do not enjoy shopping. Customers enjoy shopping to buy goods and/or engage in hedonic consumption (Arnold and Reynolds, 2003). Those customers engage more in unintended purchases and tend to spend more time in shopping stores after they have made a purchase (Bush and Grant, 1995). For profitability, it is not surprising that firms seek to attract and keep this type of customer (Kim and Kim, 2008). However, Beatty et al. (1996) found that consumers who did not engage in a relationship with the firm, enjoyed shopping more than others because, from their point of view, the relationship would not provide any benefits. Compared to prior studies, the current study contributes a greater understanding of shopping enjoyment as a moderator of the relationship between customer engagement and customer co-creation.

#### **6.2.1.2.2 Social recognition**

The effect of social recognition as a moderator on engaging customers in the co-creation process was examined via this hypothesis. It was assumed that customers with a higher level of social recognition would be more likely to engage with the firm in producing a new product. The finding revealed that customers are more likely to engage when they get positive feedback from a firm's member. In particular, care and respect provided by firm members give customers confidence and allow them to admit that their engagement is a result of their skills. These traits of social recognition boost positive perceptions about themselves and then they have a tendency to engage with the firm in the process of co-creation. Status and social recognition are given as social exchange procedure aspects, individuals give status to others with the goal of getting help in reaching their own goal (Anderson et al., 2015). Previous studies highlighted the importance of social recognition as an incentive for engagement in firm's activities. Sheth and

Parvatiyar (1995) asserted that the tendency to engage consumers in a relationship with the firm would be greater if this relationship is able to satisfy social recognition needs. Moreover, Bazi et al., (2020) found that customers engage with luxury brands in order to fulfil the need for social recognition. Individuals who seek social recognition obtain greater advantages and benefit from engagement in a brand's activities which increases their perception of being beneficial for the community (Dholakia et al., 2004). However, Odekerken-Schröder et al. (2003) found that individuals looking for recognition and appreciation are not necessarily looking for relationships with the firm. In sum, through customer engagement in the co-creation process, customers can foster their social status and recognition through being recognised as important information resources by firms.

The finding of this research highlights the role of social recognition as one of the moderators of engagement in the co-creation process and hence moderates the relationship between customer engagement and the co-creation process.

#### **6.2.1.2.3 Social affiliation**

This hypothesis tested whether the positive relationship between customer engagement and co-creation is moderated by the social affiliation trait. The result revealed was opposite to the study expectation. There are some possible explanations for this contradictory finding. One may be that customers who need to affiliate with others do not want to be obligated to the company by engaging in the co-creation process. In other words, the more the customers need to affiliate with others, the more they feel attached to the firm and want to interact with others (An and Han, 2020; Bazi et al., 2020) but this feeling towards the firm does not necessarily lead them to engage in the co-creation process. As Berry et al. (2002) stated, clients do not always share knowledge and engage in the co-creation process because of limited cognitive

resources. The other possible explanation may be that individuals with a high need for affiliation are less likely to view the firm as a potential social group to which they can belong and which can satisfy their needs for working with others and mixing socially. They are less willing to engage with the firm in idea generation, providing information and feedback to the company. Furthermore, even if sociable customers are looking for a social relationship with the firm, that does not mean that they like to engage with the firm in the new product development process. In contrast to this finding, Raciti et al. (2013) claimed that the more customers affiliate with others, the more comfortable they feel about or the more they engage with the service, the more they will be satisfied with the relationship. Moreover, sociable customers look at social interaction as a substantial factor in assessing how they are treated by the organisation and evaluate the quality of service based on the level of social interaction (Spake and Megehee, 2010). In addition, customer social skills could make the relationship with a firm closer and the interaction between them then becomes personal and builds and maintains this relationship (Ferguson et al., 2010).

#### ***6.2.1.2.4 Preferential treatment***

From the statistical analysis of the data, it has been shown that this hypothesis was supported as it was in the literature. The results showed that the relationship between customer engagement and co-creation is stronger when preferential treatment is high. Lacey et al. (2007) found that when customers receive special treatment, that leads to a stronger emotional attachment and a more constant desire to remain in a relationship with the firm and thus preferential treatment significantly affects customer feedback. A company that can get customer feedback is capable of decreasing its business risk by designing a product based on their feedback (Bettencourt, 1997). Moreover, if customers are willing to provide feedback, it

can be utilised for improving firm performance such as through engaging in the new product development process, giving opinions on product/service quality and describing needs (Shani and Chalasani, 1992). However, some criticisms have been levelled about preferential treatment and how it can affect the customer-firm relationship; preferential treatment can lead to customer disagreement with the firm (Fournier, 1998). Treating customers differently may increase dissatisfaction among them after service failure (Varela-Neira et al., 2010). The findings of this hypothesis contribute to a greater understanding of how customer personality traits, specifically preferential treatment, play an important role as a moderator of the relationship between customer engagement and customer co-creation.

#### **6.2.1.2.5 Personalisation**

This hypothesis tested whether the positive relationship between customer engagement and co-creation is moderated by the personalisation trait. This relationship is stronger when personalisation is high. The finding was opposite to the study expectation. The results showed that the relationship between customer engagement and co-creation was stronger when personalisation is low. In other words, a personal relationship between a customer and firm does not necessarily make the customer engage with the company in the co-creation process. A possible explanation for this contradictory finding is that an emerging personal relationship with a business might somehow produce conflict which might cause a negative impact on the business performance. Grayson (2007) found that merging a personal relationship and a business relationship can produce conflict and that a close relationship between a customer and firm can have a negative impact on the firm outcome. “Close” and “personal” might be not suitable concepts to explain a commercial relationship as the idea of a close and personal relationship seems to be described by instability (Snyder et al., 1989); So the interpersonal

relationship between a customer and firm might be unstable which may lead to the results of this study. A personal relationship between a customer and firm can weaken their engagement in the co-creation process

This finding is different from Barnes' (1997) study; he found that clients who have a stronger and closer relationship with the firm offer a higher share of business to the product/service provider. Gummesson (1987) highlighted that the relationship quality between clients and a firm's employees can greatly assist in the client's perception of the service provider quality. In addition, Palmatier et al. (2006) stated that interpersonal interactions represent historical significance to build and retain long-term relationships between a customer and firm.

#### ***6.2.1.3 Customer co-creation and new product success***

The examination of the relationship between customer co-creation and new product success was the purpose of this hypothesis. The fundamental result of this study reveals that the effect of customer co-creation on new product success is positive and statistically significant and is consistent with Tseng and Chiang (2016). They found a positive and significant impact of co-creation on new product performance. The important role that customers play and their participation in the new product development process help companies to satisfy their needs and improve the new product development performance and produce a new product successfully. The main purpose of the interaction between the firm's professional designers and customers providing creative ideas is to make a successful new product (Menguc et al., 2014). In addition, Gruner and Homburg (2000) found that engaging customers in the early and late stages of the new product development process increases product success. Even though many studies have found a positive effect of customer engagement on new product development performance,

other researchers have pointed out that collaborating with customers in producing new products has no impact or the effect is negative (Menguc et al., 2014; Ordanini and Parasuraman, 2011). The finding of the current research regarding the consequence of engaging customers in the co-creation process expands our current understanding of the importance of utilising the customer in the new product development process as a valuable resource for business success.

#### **6.2.1.4 The mediating role of customer co-creation**

It was hypothesised (H8) that customer co-creation mediates the relationship between customer engagement and new product success. The result of this study shows that there is an indirect effect of customer engagement on new product success through customer co-creation. This result shows that customer engagement itself does not directly influence firm performance and new product success but it does affect new product success through customer co-creation. This finding indicates that customers are not only buyers and users of new products but own diverse experiences and symbolise a crucial exporter of external knowledge and information which assist the firm to develop products which meet customers' needs, benefiting from customer engagement to extract knowledge, new ideas, feedback and suggestions by involving them in the co-creation process and working cooperatively with the firm in order to improve and produce a new product successfully. The actively engaged customers are important sources of external knowledge and information which assists firms with their activities (Pansari and Kumar, 2017). For instance, they can provide ideas, feedback and suggestions to improve a new product (Yen et al., 2020). Storey and Larbig (2018) pointed out that customers as an external resource can be used for a successful new service by involving them in the co-creation process. These findings are consistent with the finding of this research. Academic researchers highlight the important role customer engagement plays in the co-creation process (Lei et al., 2020), which leads to improvements in the quality of products (Chang and Taylor, 2016) and

is seen as important for firm success (Menguc et al., 2014). This indicates that the finding from these relationships contributes to a greater understanding of the key significant role that co-creation plays as an intermediary between customer engagement and new product success.

**Table 6-1 Summary of the results of the research hypotheses**

|           | <b>Hypothesis Path</b>                                                                                                                                                                                                                  | <b>Result</b>    |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| <b>H1</b> | Customer engagement-----> Customer co-creation                                                                                                                                                                                          | <b>Supported</b> |
| <b>H2</b> | The positive relationship between customer engagement and co-creation is moderated by the shopping enjoyment trait. This relationship is stronger for customers who experience high levels of shopping enjoyment.                       | <b>Supported</b> |
| <b>H3</b> | The positive relationship between customer engagement and co-creation is moderated by the social recognition trait. This relationship is stronger for customers who experience a high need for social recognition.                      | <b>Supported</b> |
| <b>H4</b> | The positive relationship between customer engagement and co-creation is moderated by the social affiliation trait. This relationship is stronger for customers who have a high need for social affiliation.                            | <b>Rejected</b>  |
| <b>H5</b> | The positive relationship between customer engagement and co-creation is moderated by the preferential treatment trait. This relationship is stronger for customers who have a high need for preferential treatment.                    | <b>Supported</b> |
| <b>H6</b> | The positive relationship between customer engagement and co-creation is moderated by the personalisation trait. This relationship is stronger for customers who have a high need for a close and personal relationships with the firm. | <b>Rejected</b>  |
| <b>H7</b> | Customer co-creation -----> New product success                                                                                                                                                                                         | <b>Supported</b> |
| <b>H8</b> | Customer co-creation mediates the relationship between customer engagement and new product success.                                                                                                                                     | <b>Supported</b> |

### 6.3 Research conclusion

With an increasing awareness of the importance of developing an effective relationship between customers and firms and how this relationship can be crucial for a firm's success, researchers in different fields suggest that the customers' and sellers' roles are becoming significantly blurred; users are involved in co-creation and product development (Hoyer et al., 2010; Nambisan and Baron, 2009) recommending the firm's product/service to other clients (Libai et al., 2010).

There is a need to investigate how customer engagement contributes to the co-creation process (Brodie and Hollebeek, 2011). Jaakkola and Alexander's (2014) paper was the first attempt to conceptualise the relationship between customer engagement and co-creation. Moreover, Yi and Gong (2013) suggested that further research to test customer co-creation with customer personality must be taken into account.

Regardless of the enthusiasm among researchers for involving customers in new product development (i.e. idea generation), there are few studies looking at its contribution to new product performance (Kristensson et al., 2004). Although practitioners have differed in their opinions about the effect of engaging customers in the co-creation process in terms of the outcomes for new products, some researchers state that getting new ideas is a result of relying on customer participation (Jussila et al., 2014; Nishikawa et al., 2013; Pansari and Kumar, 2016) to improve new product performance (Feng et al., 2014; Lau et al., 2010). Other researchers have found that engaging customers in the co-creation process might not lead to the production of successful products (Carbonell et al., 2009). As a result, without a better understanding of the impact of engaging customers in new product development on the outcome for new products, it is still blurry whether this process leads to a successful new product. As many firms adopt this approach, the need to investigate the effect of engaging

customers in new product development processes for new product outcomes is important (Cui and Wu, 2017a; Gemser and Perks, 2015).

In view of this literature gap, this research aimed to investigate how engaging customers in the co-creation process can affect new product success and how this relationship can be affected by customer personality traits including shopping enjoyment, social recognition, social affiliation and preferential treatment and personalisation.

A conceptual model was developed which proposed a process by which customer engagement can affect customer co-creation. Customer personality traits were integrated into the model, and these traits were introduced as moderators of the relationship between customer engagement and co-creation. These moderators represented a number of constructs. A quantitative study was conducted to understand the relationships between the research concepts. The findings of the quantitative study confirmed the constructs of the model. The hypothesised relationship between constructs was justified theoretically and then examined statistically. The findings of the statistical test provided support for all of the research's hypotheses, except two which were not supported.

Overall, investigation of the hypotheses suggests that customer engagement is positively associated with co-creation, enhancing the success of new products. The statistical analysis results showed that customer engagement associated with co-creation boosts the success of new products. In addition, the moderators consisted of five customer personality traits; most of these constructs were supported statistically and theoretically. Contrary to the hypotheses, two of them were not confirmed (personalisation and social affiliation) which means a higher level

of personalisation and social affiliation leads to a lower level of engagement among customers in the new product development process.

The findings provided evidence which supports the importance of integrating customers in new product development and the effect of the moderators on the relationship between customer engagement and the process of co-creation which enhances the success of new products.

## **6.4 Contributions of the study**

This section highlights the theoretical and managerial contributions of the study.

### **6.4.1 Theoretical contributions**

First, the conceptual framework developed in this study contributes to more theoretical development in the growing field of customer engagement in co-creation. The researcher connects CE with customer co-creation and offers a coherent framework that determines the moderators that affect this relationship and the consequence of this connection on new product success from a customer perspective.

Moreover, this study determines a condition that affects the contribution of engaging customers in the co-creation process and its effects on NPS. It responds to the call in the contemporary literature for better understanding of the relationship between CE and co-creation which leads to NPS (Cui and Wu, 2017; Fernandes and Remelhe, 2016; Gemser and Perks, 2015; Jaakkola and Alexander, 2014). This study examines how a firm can gain the maximum benefits from their customers through satisfying their needs by engaging them in the co-creation process so that individuals are beneficial to the business in return; in other words, this involves looking to the customer as a productive resource. "Putting the customer first" are the words used by

Drucker (1954) to show that the basis of a company's goal should be creating and maintaining customers, on the basis that clients identify with what the business is. There is no doubt about the importance of customers; however, it is not enough to serve the customer and satisfy their desires but innovation must occur by engaging individuals' minds and their imaginations, which means interacting with customers is essential (Berthon et al., 2004). The research findings show that the firm collaborates with the customer to improve a new product, communicate ideas for a new product, share information with the customers through two-way communication and also it is important that firms track their customers' needs and desires which leads to actual new improved products. The findings help understand how firms may integrate customer co-creation with their activities (West and Bogers, 2014).

Furthermore, taking into consideration the great interest in the role of customers in the co-creation process and the lack of adequate studies on its contribution to NPS, this research provides a deeper understanding of customer engagement with the NP development process. Various studies from the existing literature have paid attention to the benefit of engaging customers in the co-creation process (Franke et al., 2009; Gemser and Perks, 2015; Hoyer et al., 2010). However, there are few studies relating to its contribution to new product performance (Kristensson et al., 2004; Tu et al., 2018a). Therefore, more studies on the effectiveness of engaging customers in new product development processes on new product outcome are needed (Cooper, 2019; Cui and Wu, 2017; Gemser and Perks, 2015). Although customer engagement is a valuable way for a firm to leverage customer resources and promote their role in new product success, there has been tardiness in finding the moderating factors involved which affect their engagement in jointly working together in the co-creation process to produce a successful new product. Through quantitative research, the proposed framework enriches the research body of the innovation field by examining five moderating variables This

study shows the importance of customer personality traits as moderating factors. Shopping enjoyment, social recognition and preferential treatment enhance the relationship between customer engagement and co-creation that leads to new product success. The finding of this study is consistent with Tseng and Chiang (2016). They examined three organisational resource-related variables which directly enhance the relationship between co-creation and new product performance: organisational culture, communication quality, and perceived value, whereas this study examines customer personality traits as moderators which effect the relationship between customer engagement and co-creation that leads to new product success. The findings of the current research regarding the consequence of engaging customers in the co-creation process expand our current understanding about the importance of utilising the customer in new product development processes as a valuable resource for business success.

The study's framework allows for five customer personality traits to be tested and shows how these traits can affect the relationship between customer engagement and co-creation and then have an impact on new product success. The literature has not yet examined how customer personality traits can affect the engagement of customers in the new product development process (Merz et al., 2018; Tu et al., 2018; Yi and Gong, 2013). This study sheds light on these traits and suggests the adoption of different types of customer personalities. An examination of different traits in a consistent framework also provides opportunities for integrating different research streams on customer personality traits for a better understanding of the relationship between CE and co-creation that can be influenced by these traits. When customers are engaged in the NPD process, their personality traits must be taken into account to understand how they can affect the CE and the process of co-creation which leads to NPS. The influence of customer personality traits on customer participation in the co-creation process is an interesting avenue for future research.

Furthermore, the finding contributes to a greater understanding of the key significant role that co-creation plays as an intermediary between customer engagement and new product success. It shows that customer engagement itself does not directly influence firm performance and new product success but it does affect new product success through customer co-creation. This finding indicates that customers are not only buyers and users of new products but own diverse experiences and they can be symbolised as crucial exporters of external knowledge and information which assist the firm to develop products which meet customers' needs. Firms can benefit from customer engagement to extract knowledge, new ideas, feedback and suggestions by involving them in the co-creation process and working cooperatively with the firm in order to improve and produce a new product successfully.

From the SET perspective, the interactions between firms and customers are seen as an exchange. If customers perceive that the firm is providing helpful information and a beneficial service, striving to build a strong relationship with them, and seeking to satisfy their needs such as the need for enjoyment, recognition and special treatment, then customers will reciprocate by showing positive behaviours toward the firm, attaching to the firm and thus engaging in the co-creation process. As a result, the firm will meet the customers' needs in exchange of their participation in the NPD process. The principle of social exchange theory "give and take" is based on the balance between costs and benefits. Customers dedicate attention, consideration and time when engaging with the firm in the co-creation process (cost) in order to create a successful new product, and the firm, in return, fulfils their personality needs (benefit). For instance, when the firm gives social status to the customer so the customer is socially recognised among peers and the firm's members, the customer feels enthusiastic towards and attached to the firm causing them to strongly engage to create value with the firm which results in producing a successful product.

Lastly, the current research contributes to the customer engagement and co-creation literature. A recent study stated that there is a scarceness of studies focused on the direct effect of customer co-creation on revenue increases (Tu et al., 2018b). The findings of this study contribute to a deeper understanding of how the co-creation of new products with customers can result in great success. The main concept of service-dominant logic is that the customer is always a co-creator of value (Vargo and Lusch, 2008) which emphasises the importance of customer engagement in relational exchange with the organisation during co-creation procedures.

Customers play an essential role in the co-creation process by providing accurate information about their needs. Information provided from customers themselves allows a firm to more closely reflect customer needs and fulfil these needs (e.g. the need for enjoyment, social recognition and preferential treatment), thus contributing to an enhanced co-creation process which shows the importance of testing customer personality traits as moderators on the relationship between CE and CCO. Furthermore, engaging various customers in the co-creation process can highlight more different perceptions and ideas, which increases the probability of creating a better product. Therefore, according to service-dominant logic, merging customers as an information resource in the NPD process enhances new product success.

#### **6.4.2 Managerial contributions**

In recent years, customer engagement has attracted publicity that has made firms pay more attention to their customers. Gruner and Homburg (2000) stated that communication and interactions with clients are one of the reasons for product success. To keep up with the present era, companies are forced to move the co-creation process from a firm viewpoint to a customer viewpoint by collaborating with them in the new product development process. Furthermore,

it provides valuable knowledge on aspects that might affect or contribute to engaging individuals with the firm successfully and benefit from customer engagement with the organisation in terms of producing new products successfully.

This thesis proposes a structure for describing a firm's capability to co-create with a customer with an understanding of customer personality traits from tools that can be utilised by the manager to achieve success. Then they can deduce the suitability of these tools in their business by counting their benefits against their cost.

This research provides a practical conception for the relationship with customers. It emphasises the importance of the firm-customer relationship. It explains the importance of integrating customers into the firm's activities by interacting with them in developing new products. On the other hand, insufficiency of interactions with a customer might negatively affect a firm's performance.

This work has practical implications for the customer. It shed lights on the customer personality traits that the firms should understand in order to make the customer integrate with the new product development process. It also confirms the outcome of their engagement in the co-creation process in producing a successful new product.

This study illustrates the opportunity that has been given to customers to engage and interact with organisations; it allows the firms to look at customers as a resource for co-creation to help the company with future decision-making and decrease new product failure so that it can benefit from the interaction between them to satisfy customers, meet their needs, generate ideas and reach its business goal by engaging them in new product procedures at the same time.

## 6.5 Limitations and further research

As the current study has revealed the importance of customer personality traits as a moderating factor between customer engagement and co-creation, future studies should consider other potential factors or variables of customer personality traits that affect that link between CE and co-creation, such as product category involvement or the big five or potential moderating influences on the co-creation process such as the age of the relationship.

This research concentrates on engaging customers in new product success from a customer's point of view. However, it is a process which involves both customers and firms. Therefore, future study could test customer engagement in the new product development process which leads to a successful new product from a firm member's point of view.

This research was conducted using a quantitative method but because of the complications of this new research area in the marketing domain and its importance, this research suggests using both qualitative and quantitative methods in order to provide a fuller picture and more thorough understanding of engaging customers in the co-creation process.

This research shows that CE and co-creation have a positive effect on new product success. However, future research should examine engaging customers in the co-creation process within a more comprehensive model that merges theoretically connected concepts. For instance, additional outcomes (e.g., willingness to pay and satisfaction) of engaging customers in the co-creation process should receive more research attention.

This research had a significant bias towards female participants. However, it could be interesting for further research to rely on males when testing the relationship between CE and CCO in the jewellery industry. In addition, this study is limited to investigations in the jewellery industry. Furthermore, in terms of geographic scope, the research is limited to one street in London. This implies that further research which goes beyond one industry and one street, city or country may be essential in enabling extrapolation and generalisation into other situations than those investigated in this study. Nonetheless, this study is fundamental in that it is among the first, if not the first, to investigate the moderation effects of customer personality traits on the relationship between CE and CCO which leads to NPS in the jewellery industry.

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## Appendices

### Appendix 1

#### Gender:

☐ Male ☐ Female

#### Age:

☐ 18-24 ☐ 25-34.  
☐ 35-44 ☐ 45-54  
☐ 55-64 ☐ 65 or over

#### Educational qualifications:

☐ High school graduate ☐ Bachelor's degree  
☐ Master's degree ☐ PhD  
☐ Other

**Thinking about this brand, please indicate how much you agree or disagree with each of the following statements.**

| Strongly Disagree | Moderately Disagree | Disagree | Neither Disagree Nor Agree | Agree | Moderately Agree | Strongly Agree |
|-------------------|---------------------|----------|----------------------------|-------|------------------|----------------|
| 1                 | 2                   | 3        | 4                          | 5     | 6                | 7              |

|                                                                       | 1                     | 2                     | 3                     | 4                     | 5                     | 6                     | 7                     |
|-----------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| When someone criticises this brand, it feels like a personal insult.  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| When I think about this brand, I usually say we rather than they.     | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| This brand's successes are my successes.                              | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| When someone praises this brand, it feels like a personal compliment. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I am heavily into this brand.                                         | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I am passionate about this brand.                                     | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

|                                                                                                        |                       |                       |                       |                       |                       |                       |                       |
|--------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| I am enthusiastic about this brand.                                                                    | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I feel excited about this brand.                                                                       | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I love this brand.                                                                                     | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I like to learn more about this brand.                                                                 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I pay a lot of attention to anything about this brand.                                                 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Anything related to this brand grabs my attention.                                                     | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I concentrate a lot on this brand.                                                                     | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| When I am interacting with the brand, I forgot everything else around me.                              | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Time flies when I am interacting with this brand.                                                      | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| When I am interacting with brand, I get carried away.                                                  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| When I am interacting with the brand, it is difficult to detach myself.                                | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| In my interaction with the brand, I am immersed.                                                       | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| When interacting with the brand intensely, I feel happy.                                               | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| In general, I like to get involved in brand community platforms.                                       | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I am someone who enjoys interacting with like-minded others in the brand community platforms.          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I am someone who actively participates in brand community platform discussions.                        | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| In general, I thoroughly enjoy exchanging ideas with other people on the brand community platforms.    | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I often participate in activities of the brand community.                                              | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I collaborate with the company to collectively improve or develop new products offerings for the firm. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| This company shares information with customers in a two-way communication.                             | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| This company uses customers' inputs to determine which products should be offered by the firm.         | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

|                                                                                                                      |                       |                       |                       |                       |                       |                       |                       |
|----------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| This company collaborates with me to come up with solutions to problems relating to the company's product offerings. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| This company collaborates with me to track changes in consumer needs, preferences and behaviour.                     | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Their relationship with customers has resulted in an actual new improved/developed product.                          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Generally, I am someone who likes to be appreciated by others.                                                       | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Generally, I am someone who likes to be respected by others.                                                         | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Generally, I am someone who likes to be appreciated by acquaintances.                                                | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Generally, I am someone who enjoys shopping.                                                                         | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Generally, I am someone who enjoys shopping to see whether there is anything new.                                    | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Generally, I am someone who considers shopping as a pleasant way to spend my spare time.                             | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Generally, I am someone who welcomes the opportunity to mix socially with people.                                    | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Generally, I am someone who prefers working with others rather than alone.                                           | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Generally, I am someone who finds people more stimulating than anything else.                                        | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Generally, I am someone who would be unhappy if I were prevented from making many contacts.                          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I am someone who likes getting faster service than others.                                                           | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I am someone who likes getting special treatment that other customers do not get.                                    | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I am someone who likes it when the company does things for me that it does not do for most customers.                | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I am someone who likes getting better services than most customers.                                                  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I am someone who likes getting discounts or special deals that most customers do not get.                            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I am someone who likes it when the company knows me personally.                                                      | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I am someone who likes it when the company engages in friendly conversation with me.                                 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

|                                                                                                            |                       |                       |                       |                       |                       |                       |                       |
|------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| I am someone who likes it when the company's employees show personal warmth in their behaviour towards me. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I am someone who likes it when the company's employees are polite and courteous.                           | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

**Based on your collaboration with this brand to produce a new product, please indicate how much you agree or disagree with each of the following statements.**

|                          |                            |                 |                                   |              |                         |                       |
|--------------------------|----------------------------|-----------------|-----------------------------------|--------------|-------------------------|-----------------------|
| <b>Strongly Disagree</b> | <b>Moderately Disagree</b> | <b>Disagree</b> | <b>Neither Disagree Nor Agree</b> | <b>Agree</b> | <b>Moderately Agree</b> | <b>Strongly Agree</b> |
| <b>1</b>                 | <b>2</b>                   | <b>3</b>        | <b>4</b>                          | <b>5</b>     | <b>6</b>                | <b>7</b>              |

|                                                                                         | 1                     | 2                     | 3                     | 4                     | 5                     | 6                     | 7                     |
|-----------------------------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| The quality of the new product is comparable to that of competitors.                    | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| The quality of the new product is better than that of competitors.                      | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| The quality of the new product is better than all other products from the same company. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| The new product meets or exceeds customers' expectations.                               | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| The new product meets or exceeds customers' expectations of satisfaction.               | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| The new product meets or exceeds the customers' expected value.                         | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

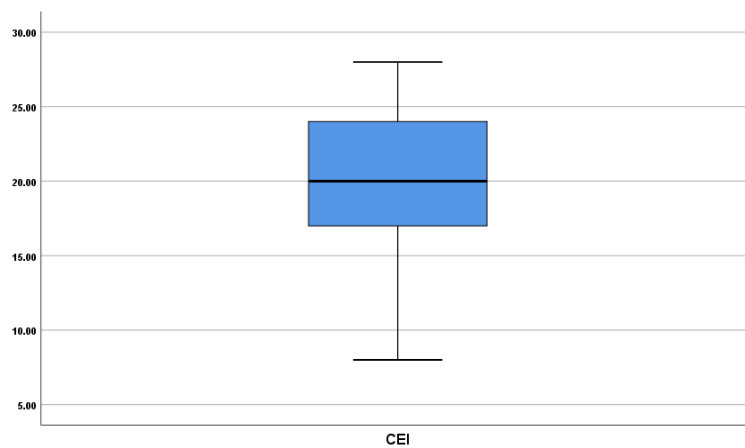
## Appendix 2

### Boxplot

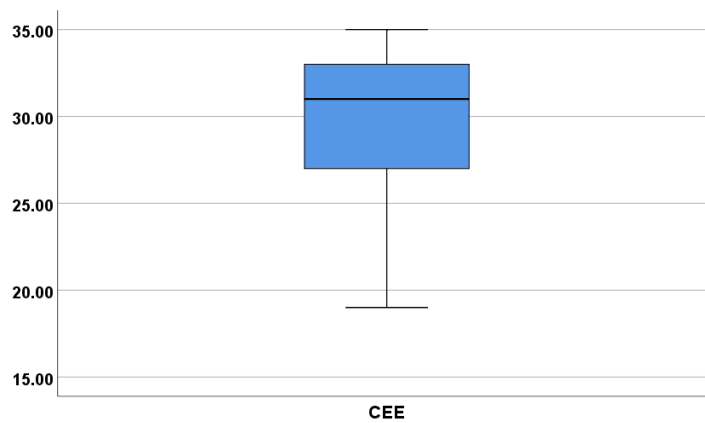
#### 1 Customer Engagement Dimensions

##### 1.1 CEI

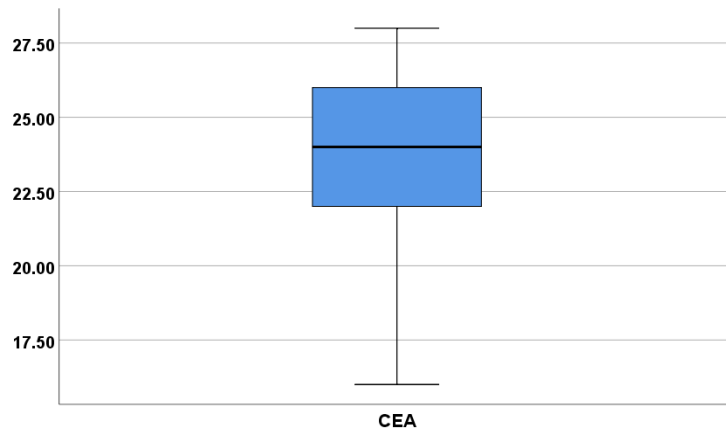
Graph (5-1): shows boxplot for CEI dimension



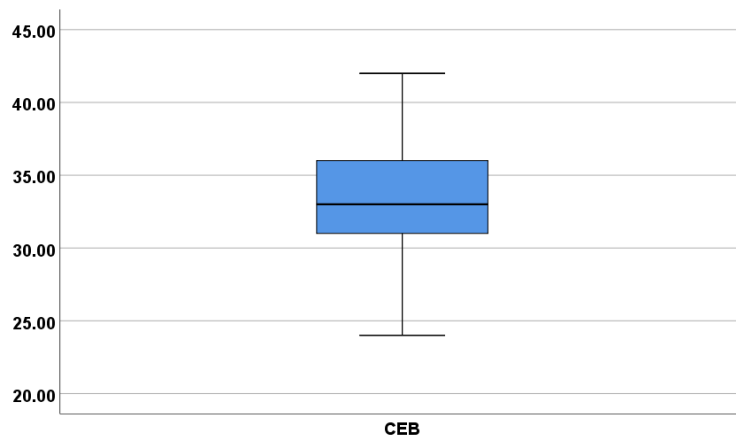
##### 1.2 CEE



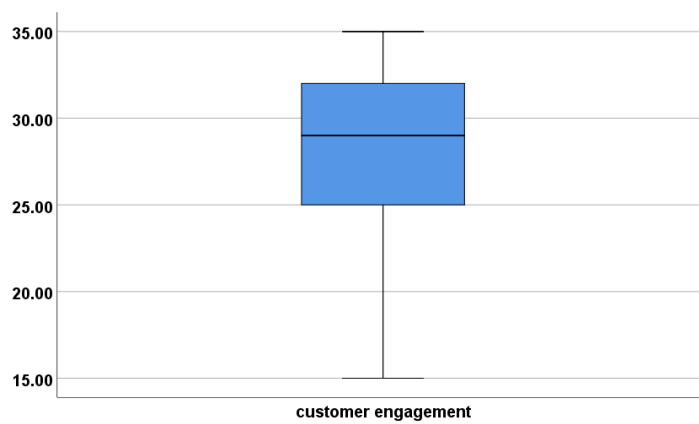
### 1.3 CEA



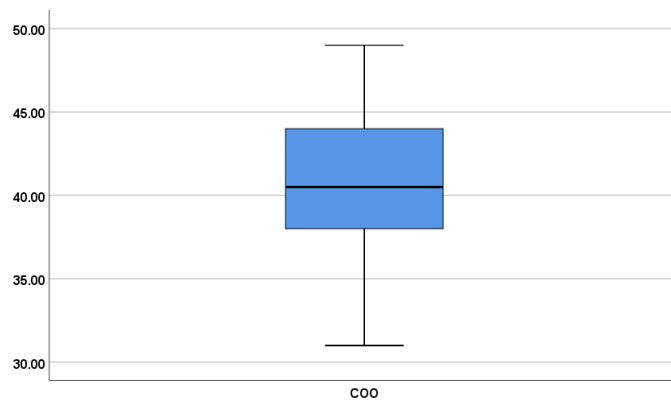
### 1.4 CEB



### 1.5 CEN

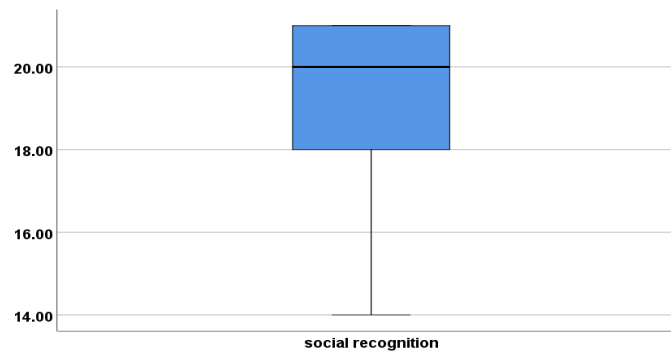


## Customer Co-creation (CCO)

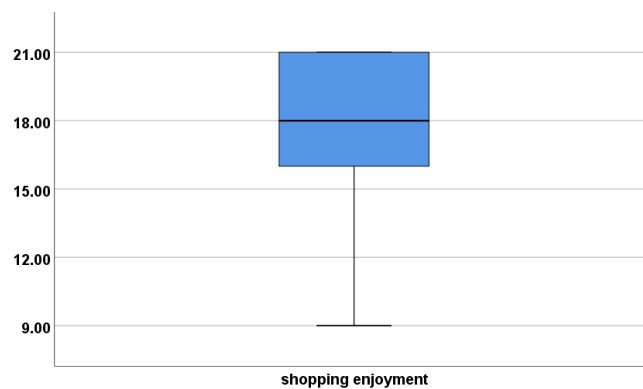


## Customer personality traits

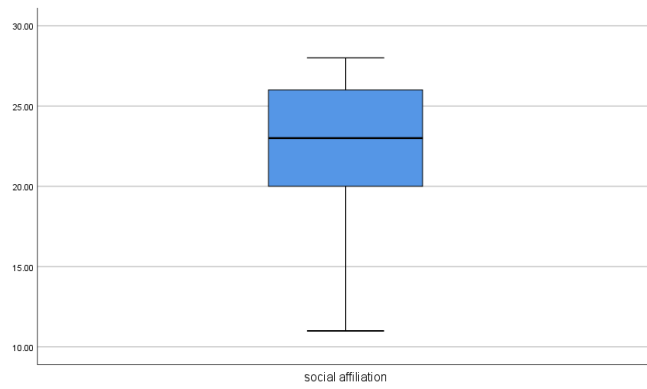
### 2 SR



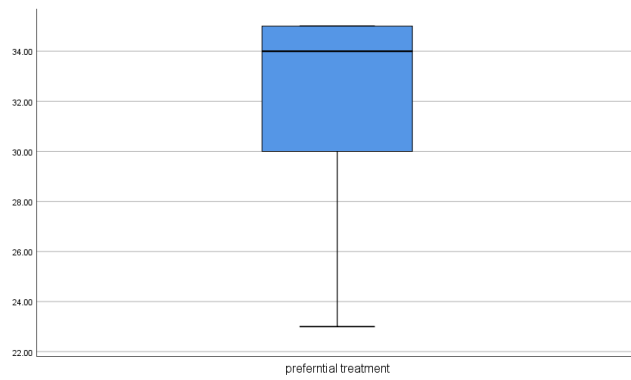
### 2.2 SE



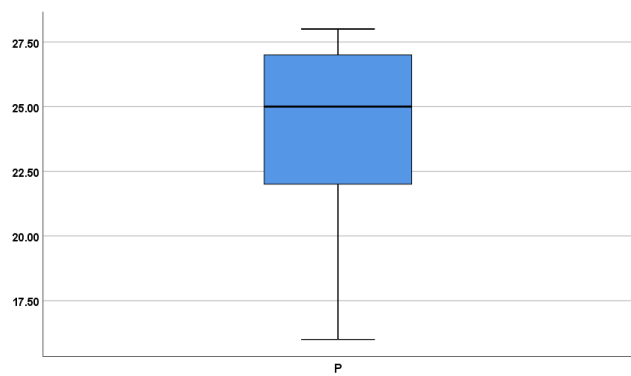
### SA



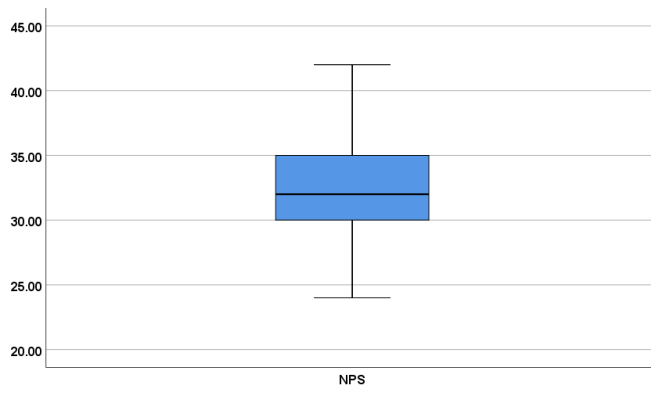
PT



P



4 New product Success (NPS)



## Appendix 3

### HISTOGRAM

