

Co-creation: The 'P' of Participation

How co-creation affects product and brand attitudes and
behavioural intentions of non co-creative consumers



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Abstract

The aim of this study is to investigate whether awareness of the fact that a product is developed in co-creation, affects product and brand evaluations. The potential of co-creation for a company is increasingly recognized. However, previous studies focus mainly on the internal effects of co-creation for the company, whereas external effects receive little attention. Co-creation might also affect the way products and brands are perceived in the marketplace.

Data of 359 participants that evaluated manipulated advertisements through an online questionnaire is analysed. Co-creation is conceptualized using two dimensions: 'involvement in co-creation' (low or high) and 'information about the co-creator' (yes or no). Furthermore, a control group (no co-creation) is included. 'Variety seeking behaviour' and 'self-congruity with the co-creator' are selected as potential factors that might affect the relationship between the dimensions of co-creation and product and brand evaluations.

The results of this study suggest that co-creation can influence product and brand evaluations. However, no significant main effect of using co-creation on product and brand evaluations is found. When comparing the four dimensions of co-creation other effects are found. The 'level of involvement in co-creation' has a main effect on product evaluations. Consumers have a more positive attitude towards the product and are more satisfied with the product when involvement in co-creation is high compared to low. In addition, they think the product is of higher perceived quality, more innovative, and they have higher purchase intentions towards the product. No main effect of 'information about the co-creator' is found.

It is observed that 'self-congruity with the co-creator' and 'variety seeking behaviour' moderate the effect of 'information about the co-creator' on product and brand evaluations. When consumers score high on 'self-congruity with the co-creator', 'information about the co-creator' has a positive effect on product and brand evaluations (for product attitude, product innovativeness, word of mouth about the product, brand satisfaction, brand innovativeness, brand purchase intention, and word of mouth about the brand), compared to no information about the co-creator. Moreover, high 'self-congruity with the co-creator' leads to more favourable scores on product innovativeness, product trust, brand innovativeness, and word of mouth about the brand compared to the control group (no co-creation). For high variety seekers, 'information about the co-creator' leads to higher scores on brand satisfaction, brand differentiation, and purchase intentions of the brand. Based on these results, it is concluded that communication about co-creation can effect product and brand evaluations. Therefore, co-creation can be used for external effects as well as for internal effects. However, success is not guaranteed.

Preface

When I started my internship at the marketing department of the brand Pickwick, I got introduced with the term 'co-creation'. I was not aware that Pickwick is using co-creation for various product introductions. For me it was a totally new and fascinating topic. Moreover, the new product introductions, of products developed in co-creation, were a huge success. The topic co-creation really interested me and one question immediately crossed my mind: What is the effect of communication about co-creation, on the product and brand evaluations of consumers (who did not participate in the co-creation process)? My Master thesis was born.

This study is a big step for me, because it means that I am finishing my Master Communication Studies. I am happy to say that the environment of writing my thesis was very inspiring. I got introduced into the dynamic and inspiring world of FMCG where co-creation has a more and more important role in new product development.

This paper would not be here without the support of a few people. I would like to thank my supervisor Dr. Sabrina Hegner for her guidance during this project, and our pleasant meetings. Secondly, I would like to thank Jelle, my parents, my manager at Pickwick and my good friends for their support and interest.

Enjoy reading!

Utrecht, April 2013

Lotte Oldemaat

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Chapter 1 – Introduction

The first Chapter introduces the research topic of this study. Section 1.1 outlines the motive of this study and the research context is described. In Section 1.2, the research question is presented. The scientific and practical relevance of this study is discussed in Section 1.3 and this Chapter provides an overview of this report in Section 1.4.

1.1 Motive

Consumers have more choices of products and services than ever before, but they do not seem satisfied (Prahalad & Ramaswamy, 2004). Because of this choice overload, it is hard for producers to differentiate. Managers strive towards innovative products. However, innovation suffers from high failure rates (Von Hippel, 2005). To improve the chances of success, consumers are invited to participate actively in the creation of new products.

In the traditional approach, the firm decides which products and services they will produce and they decide what is of value to the consumer. Consumers have little or no role in value creation. In the last few decades, more and more companies partition some of the work, traditionally done by the firm, and pass it on to consumers to enhance value. Prahalad and Ramaswamy (2004) refer to this joint creation of value by the company and the consumer as co-creation. Co-creation is a topic that is becoming very popular in marketing.

One context in particular where consumer co-creation is increasingly upcoming, is the area of new product development (NPD) (Hoyer, Chandy, Dorotic, Krafft & Singh, 2010). In this context, co-creation can be defined as “A collaborative NPD activity in which consumers actively contribute and select various elements of a new product offering” (O’Hern and Rindfleisch, 2009, in: Hoyer et al., 2010). Many products are developed in co-creation and consumers get many opportunities to be involved in product development. This study focuses on co-creation in NPD of fast moving consumer goods (FMCG). FMCG products are, as the name says, rapidly consumed, frequently purchased, familiar to consumers and of relatively low cost.

The benefits of co-creation for a firm are increasingly recognized in marketing (Prahalad and Ramaswamy, 2004). There seems to be a relationship between co-creation and profits for new products and services (Fuchs & Schreier, 2011; Witell, Kristensson, Gustafsson & Lofgren, 2011). Co-creation has a positive effect on the success of NPD by increasing productivity, efficiency, and faster speed to market (Hoyer et al., 2010). Companies that involve consumers effectively in NPD processes will ultimately achieve a sustainable advantage over the competition (Ind, Fuller & Tremain, 2012; Fuchs & Schreier, 2011; Hoyer et al., 2010; Prahalad & Ramaswamy, 2004). These positive effects are internal goals for an organisation. However, co-creation not only affects the internal processes like

mentioned, it might also affect the way companies are perceived in the marketplace (Fuchs & Scheier, 2011).

External goals for a firm to use co-creation can be loyalty, increase purchase intention and word of mouth (Van Meer & Meuleman, 2011). For different reasons consumer co-creation represents an attractive approach for companies (Fuchs & Scheier, 2011; Hoyer et al., 2010; Prahalad & Ramaswamy, 2004). A few case studies of co-creation in NPD are described below to set an example.

Pickwick Dutch tea Blend

Pickwick, number one tea manufacturer in the Netherlands, used co-creation in the whole process of NPD. The goal of this co-creation project was to make a real Dutch tea, with a modern rejuvenating flavour. This new product should give the black tea category a boost by gaining interest by a younger audience for classic tea. Therefore, Pickwick decided to develop the tea together with their target group. Hundreds of Pickwick fans wanted to become the new Pickwick tea blender, whereof 25 members of an online community were invited for a few intensive days. Pickwick wanted their fans to name the tea and decide how the tea should taste and smell. Consumers were involved in the development of a concept, choosing the blend flavour, selecting the products name, and development of the packaging design. Additionally, participants were involved in the external communication about the product. The introduction of Dutch tea blend was a huge success. Besides a good consumer inside for the development of this new product, another goal for Pickwick was to present this new product on a playful and credible way to all Dutch consumers.

Lay's 'maak de smaak' (create the taste)

Another brand that has experience in involving consumers in NPD is Lay's (PepsiCo). Lay's involved consumers in the ideation phase of developing a new product. Consumers (in the Netherlands) were asked to come up with a new flavour for chips. Lays was searching for a new flavour to become the Limited Edition of the brand and wanted to involve the consumer in this search. More than 300.000 consumers provided more than 700.000 ideas for a new flavour (Van der Meer & Meuleman, 2011). Out of this enormous amount of ideas, a jury of famous chefs selected three finalists: 'Nr. 66 Babi Pangang', 'Patatje Joppie' & 'Mango Red Chilli'. These flavours were introduced as limited editions into the market. Dutch consumers could vote for their favourite taste and with 72 percent of the votes, 'Patatje Joppie' became the

absolute favourite and winning flavour. The reason for Lay's to come up with this campaign was not only to develop a new flavour. The competition of private labels in the food industry is a well-known problem and therefore Lays wanted to create brand preference through awareness of co-creation.

Other examples of co-creation

McDonalds introduces the campaign 'The most famous citizen of the Netherlands' (citizen means burger in Dutch). This campaign is comparable with the co-creation campaign of Lay's. Customers are invited to come with a new burger and could vote on their favourite. In the TV commercial about the winning burger, McDonalds communicated about the person who won.

Dove (Unilever) introduced the 'create your own douche crème' campaign and Activia (Danone) build up a advisory board of 400 woman who worked on NPD projects and finding a new positioning for Activia's communication.

These examples show that besides the internal advantages, communication about the use of co-creation was another goal. Little research focuses on the external effects of communication about co-creation. Hoyer et. al. (2010), state that the effect of co-creation on brand image needs more attention. Furthermore, Fuchs & Scheier (2011) show the importance of how the consumers that did not participate see consumer empowerment strategies. In their study, co-creation in product development in terms of 'creating ideas' and 'voting for ideas' (for furniture, bicycles and T-shirts) leads to more favourable corporate attitudes and behavioural intentions.

1.2 Research question

This study focuses on the effect of communication about the use of co-creation in NPD of fast moving consumer goods, on the attitudes and behavioural intentions of the consumers that did not participate in this co-creation. Do consumers perceive the product and brand differently when they know a product is developed in co-creation? The research question that is central for this study is:

"How does awareness of co-creation in NPD affects product and brand attitudes and behavioural intentions of non co-creative consumers?"

To answer this question, different dimensions of co-creation are tested in this study. The level of involvement in co-creation and information about the co-creator are tested for an effect on product and brand evaluations. Furthermore, self-congruity with the co-creator and variety seeking

behaviour are tested for an effect on consumers' evaluations and for a moderating effect on the relationship between the dimensions of co-creation and product and brand evaluation. The selection of these factors is based on prior studies and case studies. These factors are highlighted in the theoretical framework.

1.3 Relevance

1.3.1 Scientific relevance

Previous studies on co-creation focus mainly on the co-creation process, internal advantages like efficiency and speed to market, and motives of consumers to participate in co-creation. However, the majority of consumers do not participate in co-creation (Hoyer et. al., 2010). Because hardly any research is done about the external effects of co-creation, this study is set up to fill this research gap. Fuchs and Schreier (2011) conducted the first empirical research on this topic. This study aims to broaden the knowledge on the influence of co-creation in NPD on product and brand evaluations.

1.3.2 Practical relevance

The impact of co-creation is an important area of research for practitioners and managers. Co-creation can be a strategy for managers to create competitive advantage in the marketplace. Co-creation can be used as an effective way of enhancing consumer attitude and behavioural intention. Explaining the effects of communication about co-creation on brand and product evaluations is very useful and of broad relevance. Managers can decide whether to communicate about co-creation in certain situations or not. The focus in this research is on NPD in fast moving consumer goods. Consumers have more choices than ever before. Therefore, it is very important for managers to differentiate and to gain knowledge about the external effects of co-creation.

1.4 Overview

This paper is organized as follows: In Chapter 2 a theoretical framework is presented together with the hypotheses that derive from the literature. In the literature review, the context of co-creation is highlighted and the effects of co-creation are discussed. Central in Chapter 3 is the research method used conducting this study, followed by the results and analyses in Chapter 4. The Discussion of this study is presented in the Chapter 5. Furthermore managerial implications, limitations, and future research are discussed in this chapter as well.

Chapter 2 - Theoretical framework

This study starts with a literature review about the important topics in the context of co-creation. To get introduced with the term 'co-creation' this chapter starts with the consumer role in value creation (2.1) and the concept of co-creation (2.2). After this introduction, the effects of co-creation (2.3) are discussed, with a focus on the research scope of this study: the external effects (2.4). Furthermore, the dimensions of co-creation used in this study (2.5) and the moderating factors are highlighted (2.6). All hypotheses tested in this study derive from the literature and are summarized in a research model (2.7).

2.1 The consumer role in creating value

Value creation has become a dominant theme in marketing. In the traditional view of creating value to a product or brand, firms decide what is of value to the consumer and which products and services they produce. In this system, consumers have little or no role in value creation (Prahalad & Ramaswamy, 2004). The role of the producer is to produce and the role of the consumer is to consume. The consumer role in creating value to a product or brand is changing (Pongsakornrungrungsilp & Schroeder, 2011; Hoyer et al., 2010; Cova & Dallı, 2009; Prahalad & Ramaswamy, 2004; Vargo and Lusch, 2004).

Organizations understand the importance of innovation (Ind, Fuller & Trevail, 2012; Von Hippel, 2005). Managers strive towards innovative products and consumers expect it. However, innovation suffers from high failure rates. Consequently, innovators find generating ideas and products exciting, but at the same time laden with anxiety (Von Hippel, 2005). To reduce this anxiety and improve the chances of success, consumers are invited to actively participate in the creation of new products. Von Hippel (2005) mention this the democratization of innovation. The role of consumers has changed from isolated to connected, from unaware to informed, from passive to active. Consumers are more empowered than ever before. Moreover, consumers desire to play a greater role in the process of value creation. With this change in consumer behaviour, the concept of value creation is becoming more important in marketing theory (Pongsakornrungrungsilp & Schroeder, 2011; Van der Meer & Meuleman, 2011; Prahalad & Ramaswamy, 2004). Van Meer & Meuleman (2011) mention that the traditional marketing mix can be extended with another 'P': the P of Participation.

This participation is driven by technology. Technology has provided consumers with access to unlimited amounts of information and the ability to communicate with other consumers and companies anywhere in the world (Hoyer et al., 2010; Füller, Mühlbacher, Matzler & Jaweckı, 2010; Prahalad & Ramaswamy, 2004). Consumers enjoy sharing emotions and creating value. They like to share their experiences, their opinions about products and services, and want to participate in online

games. Consumers increasingly provide feedback to companies and to each other. Furthermore, consumers can also use the internet to experiment with and develop products (Prahalad & Ramaswamy, 2004). Consumers can take on the role of co-creators (Füller et al., 2010).

2.2 The concept of co-creation

Literature provides us with many different terms relating to the change of the consumer role in value creation. Terms that are popular, are crowd sourcing, open innovation, co-creation, co-production, and personalization. Many initiatives get the tag 'co-creation' while they look similar to traditional panel research or a voting contest. This leads to confusion about the term co-creation (Lansink, 2009).

Crowd sourcing means outsourcing to the crowd (Howe, 2006). A function once performed by employees of a company or institution outsourced to an undefined network of people in the form of an open call. Traditional closed innovation processes, changed into open innovation processes with the purpose to create new and better ideas. The expression 'open innovation' characterizes a system where innovation is not only performed internally within a firm, but in a cooperative way with other external actors (Pillar & Ihl, 2009). Chesbrough and Crowther (2006) define open innovation as "the use of purposive inflows and outflows of knowledge to speed up internal innovation, and to expand the markets for external use of innovation respectively". Besides external parties like technology providers (i.e. Douwe Egberts & Philips: Senseo) and knowledge institutions, firms increasingly involve consumers in innovation practices (Pongsakornrunsilp & Schroeder, 2011; Witell et al., 2011; Hoyer et al., 2010; Pillar & Ihl, 2009; Prahalad & Ramaswamy, 2004). Hollebeek (2011) defines consumer brand engagement as "specific levels of cognitive, emotional, and behavioural activity in direct brand interactions". This study focuses on behavioural activity, in terms of co-operation, between consumers and producers in NPD. Therefore, co-production and co-creation are terms that are more applicable. Co-creation can be defined as the processes by which both consumers and producers collaborate, or otherwise participate, in NPD (Hoyer et al., 2010; Prahalad & Ramaswamy, 2004). Ertimur and Venkatesh (2010) define co-production as "participation in the creation of the core offering itself" and co-creation as a higher order concept. They argue that value creation occurs with or without co-production. Likewise, Lusch and Vargo (2009) argue that co-creation goes beyond product development and co-creation does not necessarily imply co-production. The actual contribution to the final product is optional; the core value is in the collaboration.

In this study the term co-creation refers to the definition of O'Hern and Rindfleisch (2009, in: Hoyer et al. 2010): "a collaborative new product development activity in which consumers actively contribute and select various elements of a new product offering". Co-creation allows consumers to take an active and central role as participants in the NPD process.

Witell et al., (2011) make a distinction between co-creation for use and co-creation for others. Co-creation for use is performed by a specific consumer for his or her own benefit (personalization), while co-creation for others is oriented towards other consumers. Co-creation for others aims to provide an idea, share knowledge, or participate in the development of a product or service that can be of value for other consumers (Witell et al., 2011). The concept of co-creation for others is applied in this study.

2.3 The effects of co-creation

The benefits of co-creation are increasingly recognized in marketing, and therefore an attractive approach for companies. (Fuchs & Scheier, 2011; Hoyer et al., 2010; Prahalad & Ramaswamy, 2004). These benefits, mentioned in literature, can be divided in internal and external benefits for the company.

There seems to be a relationship between co-creation and profits for new products and services (Fuchs & Schreier, 2011; Witell et al., 2011; Hoyer et al., 2010). Consumer empowerment in NPD enables firms to develop better products through their closer fit to consumer needs (Hoyer et al., 2010). This leads to higher commercial potential and market acceptance. At the same time, co-creation leads to cost minimization. Employees input can be replaced with consumers input. Furthermore, virtually costless acquisition of consumer ideas and outsourcing NPD efforts decrease the need for traditional market research and employees. Moreover, there is a relationship between co-creation and reduced risk of product failure, faster speed to market and inventory holding costs. These benefits are internal benefits of co-creation. This study focuses is on the external benefits co-creation may have on consumer behavioural intentions like purchase intention, word of mouth or the willingness to pay a price premium.

2.4 Research scope and hypotheses: External effects of co-creation

A closer preference fit of co-created products, can increase positive attitudes towards the product (Hoyer et al., 2010). Attitudes are important because they form the basis for consumer behaviour and drive future demand (Hupp & Powaga, 2004; Ajzen, 1991; Wilkie 1986, in: Keller, 1993). An attitude is simply an overall evaluation of an alternative (in this study a product and brand), ranging from positive to negative. Once formed, this evaluation plays a directive role in future choice. From a company's perspective, creating a positive attitude is very important. Positive affective responses to a product and brand can increase its brand value, which in turn is the basis for high brand equity and brand profitability. Eventually, consumer perception can significantly shape the economical performance of a firm (Walla, Brenner & Koller, 2011).

Every experience that consumers have with a brand and its competitors influence their attitudes (Hupp & Powaga, 2004). Brand marketing invests to create positive brand experiences through advertising, packaging, quality and nowadays through co-creation as well. Consumers who are highly engaged with brands show positive attitudes and behavioural intentions towards the brand (Hollebeek, 2011). The study reported by Bendapudi and Leone (2003) provides evidence for the psychological impact of consumer participation in the production of new products. Co-creation leads to positive outcomes like high-perceived quality and satisfaction. However, little is known about consumers who did not participate in co-creation. When the market knows that consumers are actively involved in the development of products, the evaluation of the company (brand or product) might change (Van Belleghem & De Ruyck, 2012; Fuchs & Schreier, 2011). Consumers will see the company i.e. as more consumer-centric (Van Belleghem & De Ruyck, 2012). To find out if awareness of co-creation affects product and brand evaluations, five variables (besides the overall product and brand attitude) are selected in this study:

Satisfaction: Hoyer (2005, in: Fuchs & Scheier, 2011) reports a significant relationship between perceived consumer orientation and satisfaction. Furthermore, satisfaction is an indicator for behavioural intentions (Tsotsou, 2006; Anderson 1998; Oliver, 1980). When consumers are satisfied with a product they continue to purchase those products. Furthermore, by telling others about particularly pleasing products, they may influence the perceptions of those with whom they communicate (Richins, 1983). Consumer satisfaction has been regarded as a fundamental determinant of long-term business success. It is widely accepted that satisfied consumers are less price sensitive, less influenced by competitors attack, and loyal to the firm longer than consumers that are dissatisfied (Nam, Ekinci & Whyatt, 2011).

Quality: Involving consumers in the NPD process, improves perceived product quality and increases market acceptance (Hoyer et al., 2010). This perceived quality has an effect on behavioural intentions (Tsotsou, 2006). Numerous cues affect quality perceptions. These cues include intrinsic cues related directly to the product and extrinsic cues not related directly to the product (Rao & Monroe, 1989). For example, price, brand name, and store name. In this study, co-creation is tested as a possible cue for perceived product and brand quality.

Innovativeness: Experimental studies have shown that innovation has made the acceptance of new product offerings more likely (Aaker, 2004). Aaker (2004) points out that it is not easy to achieve an innovative reputation. Most firms aspire being perceived as innovative but few really break out of the clutter (Aaker, 2004). Co-created products are often shown to possess

novelty, creativity and high expected benefits. This ultimately increases commercial attractiveness and value (Witell et al., 2011; Hoyer et al., 2010; Kristensson, Gustafsson & Archer, 2004). Furthermore, product innovation has been found to have a significant effect on the behavioural responses of consumers (Athanasopoulos, Gounaris & Stathakopoulos, 2001). In this study, it is tested whether products are perceived as more innovative when consumers know the product is developed in co-creation with consumers.

Differentiation: Because of a choice overload in consumer products and brands it is hard for producers to differentiate (Prahalad & Ramaswamy, 2004). Marketing managers are generally responsible for selecting a marketing strategy that brings individual market demands closer to a new product offering. This is often accomplished by product differentiation through advertising and promotion (Smith, 1956). This study will explore the effect of using co-creation in advertising on perceived product and brand differentiation.

Trust: Unique product or brand value that leads to consumer loyalty may derive from greater trust in the brand (Chaudhuri & Holbrook, 2001). Trust can be defined as consumer perceived security and reliability in brand interactions, and the belief that the brand acts in the best interests of the consumer (Hollebeek, 2011). Involving consumers in the NPD process can spur trial by reducing the risk associated with trial of a new product and dispelling many doubts in the minds of the potential consumer (Hoyer et. al, 2010).

Like mentioned, attitudes are recognized as one of the major factors that guide consumer behaviour (Hupp & Powaga, 2004; Wilkie, 1986 in: Keller, 1993; Ajzen, 1991). Behavioural intentions mediate the impact of attitudes on actual behaviour. A behavioural intention reflects a person's decision to perform the behaviour, under the condition that the person is in control of performing the behaviour (Ajzen, 1991). Positive attitudes might affect consumer loyalty, purchase intentions, willingness-to-pay a price premium, and word of mouth (Hoyer et al., 2010; Thomke & Hippel, 2002). Consumer loyalty is important because loyal consumers bring many benefits to a firm (Yi & La, 2004). Brand loyalty leads to greater market share when loyal consumers repeatedly purchase the same brand (Chaudhuri & Holbrook, 2001). In their article, Yi and La (2004) mention the advantages of consumer loyalty: a continuous stream of profit, reduction of marketing costs, growth of per-consumer revenue, decrease in operating costs, increase in referral, increase in price premium, and switching barriers among loyal consumers who will not easily surrender to competitors' promotion efforts.

Loyalty has traditionally been conceived as a behavioural construct relating to intentions towards repeat purchase intention (Nam, Ekinci & Whyatt, 2011; Yi & La, 2004), resistance against better alternatives, intention of word of mouth or willingness to pay premium price (Yi & La, 2004). The

effect of using co-creation on purchase intention, word of mouth, and willingness to pay a price premium are of interest in this study:

Purchase intention is one of the main concepts studied in the marketing literature. The interest of marketing scholars on purchase intentions comes from its relation to buying behaviour. Several studies have reported a positive correlation between purchase intentions and purchase behaviour (Morwitz & Schmittlein, 1992 and Morwitz et al., 1996, in: Tsiotsou, 2006).

Word of mouth refers to interpersonal communication among consumers about their personal experiences with a firm or a product (Westbrook, 1987; Richins, 1983). A more consumer centric view of a brand leads towards positive conversations about a product and brand and it means a boost for the companies' image (Van Belleghem & De Ruyck, 2012). Managerial literature argues that the word of mouth communication process is one of the most powerful forces in the marketplace (Bansal & Voyer, 2000) and is ranked the most important information source shaping consumers attitudes and behaviours (Harrison-Walker, 2001; Bone 1995). Studies suggest that favourable word of mouth is the ultimate product success factor because personal sources are viewed as more trustworthy (Harrison-Walker, 2001).

Willingness to pay a price premium is defined as the price consumers are willing to pay for a product or brand compared to other products or brands. Brand loyal consumers may be willing to pay more for a brand because they perceive some unique value in the brand (Chaudhuri & Holbrook, 2001).

To test whether awareness of co-creation has an influence on product and brand attitudes and behavioural intentions, it is hypothesized that:

H1a: 'Non co-creating consumers demonstrate more favourable attitudes and behavioural intentions towards a product when they know the product is developed in co-creation with consumers'

H1b: 'Non co-creating consumers demonstrate more favourable attitudes and behavioural intentions towards the brand when they know the brand is developing products in co-creation with consumers'

2.5 Dimensions of co-creation

After reviewing different case studies about co-creation, it is observed that companies use different dimensions of co-creation. As shown in the co-creation examples in chapter 1, Lay's asked consumers to come up with a new idea for a chips flavour, and asked all Dutch consumers to vote on their favourite. Pickwick involved consumers during the whole development process, including product development. Furthermore, it is observed that in some cases companies communicate about the person who was involved in the co-creation process. For example, McDonalds with their campaign 'become the most famous citizen' (citizen means burger in Dutch). McDonalds communicated about the person who was involved in the development of the new burger.

In this study, the level of involvement in co-creation and information about the co-creator are selected as potential factors to influence product and brand evaluations.

2.5.1 Level of involvement in co-creation

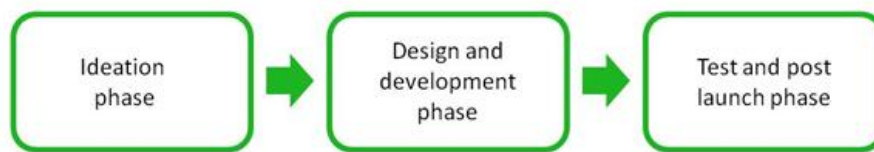
The NPD process of Kotler (2003) is shown in Figure 1. In traditional market research, passive consumers are only involved in the 7th stage of this process: Market testing.

Figure 1. Traditional new product development process (Kotler, 2003)



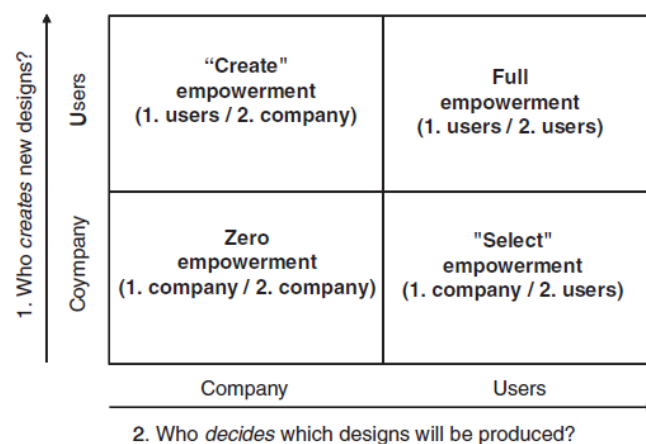
The shift from traditional marketing research to co-creation, leads to a shift from involving consumers during the market testing phase, towards involving them in other stages of the NPD process (Fuchs & Scheier, 2011; Witell et al., 2011; Hoyer et al., 2010; Füller et al., 2010). Hoyer et al. (2010) discuss four stages suited for involvement: Ideation, product development, commercialization, and post-launch. Füller et al. (2010) use three stages that are comparable to the stages of Hoyer et al. (2010): Idea generation, design and development phase, and test and relaunch phase.

In the ideation or idea generation phase, consumers can serve as a resource. Interactive multimedia tools, virtual brainstorming, or virtual focus groups support the users in creating new ideas. The design and development phase refers to the production of the core offering itself. In the test and (post) launch phase, product testing can help to provide valuable feedback on products (Füller, Mühlbacher, Matzler & Jaweck, 2010). Furthermore, consumers can be involved in communication about the product. Figure 2 shows the phases suited for co-creation and therefore the focus of this study.

Figure 2. Phases of the NPD process suited for co-creation

The test phase is most comparable with traditional marketing research. The early stages of the process are vital for the success of NPD projects. A high degree of consumer co-creation in the ideation and development stage can contribute significantly to new product and firm performance (Hoyer et al., 2010). Witell et al. (2011) found evidence that using co-creation in the ideation phase has a greater influence on the profits of new products and services than traditional techniques. However, the effect of involving consumers in different phases of the NPD process on product and brand evaluations is unknown.

Fuchs and Scheier (2011) tested the effect of using co-creation on product attitude, corporate attitude, and behavioural intentions of the consumers that did not co-create. They tested consumer empowerment in NPD in terms of two basic dimensions: (1) submit ideas for new

Figure 3. Consumer empowerment in NPD strategies (Fuchs & Schreier, 2011)

products (empowerment to create) or (2) to ‘vote’ on which products should ultimately be marketed (empowerment to select). The authors found no significant differences between full empowerment, create empowerment, and select empowerment, and the effect on product attitude compared to zero empowerment.

They did find evidence that involving consumers leads to more favourable corporate attitudes and behavioural intentions. In their study, Fuchs and Scheier (2011) focused on the ideation phase of the NPD process (submit ideas and vote for ideas). In this study, the study of Fuchs and Schreier (2011) is extended by testing for the effect of co-creation in the ideation phase compared to the ideation and product development phase. The two different dimensions of co-creation used in this study are (1) *low involvement* in co-creation and (2) *high involvement* in co-creation. Low involvement in co-creation refers to co-creation in the ideation phase of the development process. After the ideation phase for a new product is finished, the company takes over completely. Consumers have no impact on the development process

anymore. High involvement in co-creation refers to co-creation in the ideation phase and the product development phase. Product development refers to co-operation with the R&D department, packaging design, naming of the product variant, etc.

It is expected that communication about co-creation is more effective when consumers are highly involved in the development process.

H2a: 'High involvement in co-creation leads to more favourable attitudes and behavioural intentions towards the product, compared to low involvement in co-creation'

H2b: 'High involvement in co-creation leads to more favourable attitudes and behavioural intentions towards the brand, compared to low involvement in co-creation'

2.5.2 Information about the co-creator

Just like people have personality images, products and advertisements have personality images as well (Aaker, 1999). Personality images can be described in terms of a set of attributes such as modern, young, friendly, innovative, or traditional. A common strategy in marketing is the use of an endorser or spokesperson (Priester & Petty, 2003; Edell & Staelin, 1983) to convey information about the brand, to show its users and uses, and to create an image or personality for the brand. This information can influence consumer evaluations of the advertisement, product, or brand (Priester & Petty, 2003). Research shows that spokespersons in advertisements influence consumer evaluations of the advertisement and the willingness to purchase the product, through i.e. attractiveness, race, and sex (Petroshius & Crocker, 1989). When seeing another person, immediately a certain impression of that person's character forms itself (Asch, 1946).

A lot of research on endorsers and spokespersons focuses on celebrities. Using celebrity endorsement is associated with advantages like more attention being paid to an advertisement, better recall or recognition of a brand name, the ability to create an image for a product through meaning transfer, favourable attitudes towards the ad, the brand and purchase intentions and sales of the endorsed product (La Ferle & Choi, 2005).

In this study, a spokesperson is used in advertisement as well. This spokesperson is the person who was involved in the co-creation process of the product that is advertised. It is expected that giving information about the person who co-created a new product affects product and brand evaluations. Information about this person is given through a name, age, occupation, and family situation.

Because pictures in general are more attention getting, pleasant, and easier to process than verbal text is (Edell & Staelin, 1983), a picture of the person who was involved in co-creation is added as well. Two dimensions are used to test for the effect of information about the co-creator in this study: (1) Information about the co-creator (photo, name, age, occupation, and family situation) and (2) no information about the co-creator. It is hypothesized that:

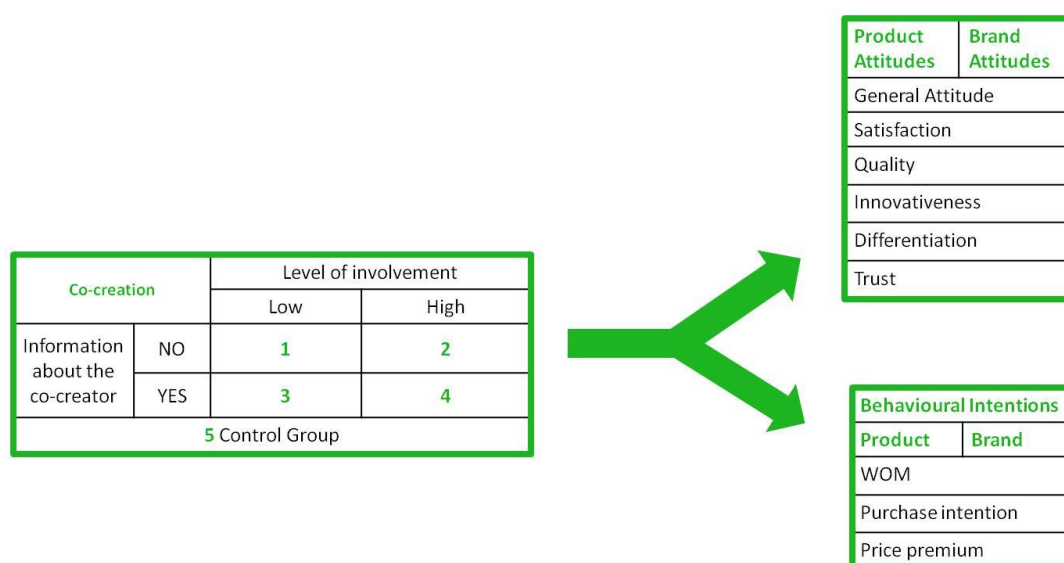
H3a: 'information about the co-creator leads to more favourable attitudes and behavioural intentions towards the product, compared to no information about the co-creator'

H3b: 'information about the co-creator leads to more favourable attitudes and behavioural intentions towards the brand, compared to no information about the co-creator'

2.5.3 First step in conducting a research model

Based on the dependent variables (product and brand attitudes and behavioural intentions) that are selected for this study and the independent variables (involvement in co-creation and information about the co-creator) a first step is made in developing a research model. This model (Figure 4), displays the main effects of the different dimensions of co-creation (involvement and information) on product and brand evaluations. In Section 2.6 potential factors are discussed that can moderate these main effects. These factors, and the effect of attitudes on behavioural intentions, are added to the final research model (Figure 5).

Figure 4. First step in conducting a research model



2.6 Moderating factors

Important factors of explaining consumer behaviour are self-congruity (Sirgy, Dong-Jin, Johar & Tidwell, 2008; Hegner, 2008; Johar & Sirgy, 1991; Sirgy, 1985) and variety seeking behaviour (Hoyer & Ridgway, 1984; Baumgartner & Steenkamp, 1996). These factors are selected in this study as possible factors to moderate the effect of co-creation on product and brand evaluations.

2.6.1 Self-congruity

Having a match-up between the personality of a spokesperson and the personality of a product, brand, or advertisement is important to improve advertising effectiveness (Misra & Beatty, 1990). This match-up may result in better recall of information and a positive transfer of affect from the spokesperson to the brand. Furthermore, the perception consumers have of themselves, play a determinant role in purchase decisions (Hegner, 2008). Consumers prefer these products or brands that correspond to their self-image. Congruence between the self-image of consumers and the product image affects the product preference and purchase intentions of consumers. This congruence has been referred to as self-congruity (Sirgy, 1985). Purchase motivation is higher when self-congruity with the product is high than when self-congruity is low (Sirgy, 1985). The greater the congruence between the product image and the audience's actual self-image, the greater the likelihood of persuasion (Johar & Sirgy, 1991). Furthermore, self-congruity has a positive effect on brand loyal behaviour like Word of Mouth (Nam, Ekinci & Whyatt, 2011). Consumers intend to recommend brands not only for their functional values but also for their symbolic values through self-congruity.

Research on self-congruity has shown that self-congruity with a product or store has a positive influence on consumer attitudes, behavioural intentions, and behaviours (Sirgy, Dong-Jin, Johar & Tidwell, 2008). This study is not about self-congruity with a new product, however, about self-congruity with the person that co-created a product. Self-congruity with the co-creator refers to the degree to which consumers think the image of the person who co-created the product matches with their own self-image. This study seeks to establish the conceptual link between self-congruity with the co-creator of a new product, and product and brand evaluations. It is hypothesized that self-congruity has a main effect and a moderating effect on product and brand evaluations. Consumers who score high on self-congruity with the co-creator will show more favourable product and brand evaluations compared to consumers who score low on self-congruity with the co-creator. Furthermore, it is hypothesized that the effect of giving information about the co-creator of a new product is moderated by the level of self-congruity with the co-creator.

H4a: 'There is a positive effect of self-congruity with the co-creator on product attitudes and behavioural intentions'

H4b: "There is a positive effect of self-congruity with the co-creator on brand attitudes and behavioural intentions"

H4c: 'Self-congruity moderates the effect of information about the co-creator on product evaluations: When self-congruity with the co-creator is high, the effect of information about the co-creator is more positive'

H4d: 'Self-congruity moderates the effect of information about the co-creator on brand evaluations: When self-congruity with the co-creator is high, the effect of information about the co-creator is more positive'

2.6.2 Variety seeking behaviour

Consumers often express satisfaction with their present brand but still engage in brand or product switching. The motive for this behaviour is variety seeking, which occurs most often when there are many similar alternatives, frequent brand shifts, and when purchase frequency is high (Hoyer & Ridgway, 1984). Variety seeking is the desire for a new and novel stimulus, i.e. the selection of a new product or brand. The source of variety seeking behaviour is the internal need for stimulation (Van Trijp, Lahteenmaki & Tuorila, 1992). When stimulation drops below a certain ideal level, an individual becomes bored and attempts to produce more stimulating input through behaviours such as novelty seeking. Consumers with a high need for stimulation will be more likely to engage in consumer variety seeking than consumers with low need for stimulation (Hoyer & Ridgway, 1984).

McAlister and Pessemier (1982) include switching among product variants, switching among service alternatives, switching among various activities, etc., under the umbrella of varied behaviours. To keep consumers brand loyal but address their variety seeking tendency, manufacturers of consumer goods should establish new alternatives in existing and new product categories within their brand portfolios. Variety seekers switch more easily within alternatives of a specific brand than between different brands. According to this finding, consumers seek variety while trying to remain loyal to a brand (Helmig, Huber & Leefland, 2007).

Previous research supports a positive relationship between Optimum Stimulation Level (OSL) and variety seeking (Steenkamp & Baumgartner, 1992), and indicates that variation in self-reported food consumption behaviour is positively correlated with a scale measuring variety seeking tendencies

with respect to foods (Van Trijp & Steenkamp, 1992, in: Baumgartner & Steenkamp, 1996). Actual variety seeking behaviour, a characteristic of lead users and mavens, is positively related to exploratory acquisition of products (Baumgartner & Steenkamp, 1996).

Exploratory behaviour, opinion leadership/market mavenship, and innovativeness are related (Ruvio & Shoham, 2007; Baumgartner & Steenkamp, 1996). Innovations, developed by lead users tend to be more commercially attractive (Von Hippel, 2005). Furthermore, highly innovative consumers tend to be the first purchasers of new products and tend to be opinion leaders (Ruvio & Shoham, 2007).

In this study, it is assumed that co-creation is seen as a new and novel stimulus. Therefore, it is expected that high variety seekers, show more favourable attitudes and behavioural intentions towards a product and brand when they are aware that a product is developed in co-creation. Moreover, it is expected that the level of variety seeking behaviour moderates the effect of involvement in co-creation and information about the co-creator. It is expected that for consumers who score high on variety seeking, involvement in co-creation and information about the co-creator are more important than for consumers who score low on variety seeking.

H5a: 'There is a positive effect of variety seeking behaviour on product attitudes and behavioural intentions'

H5b: 'There is a positive effect of variety seeking behaviour on brand attitudes and behavioural intentions'

H5c: 'Variety seeking behaviour moderates the effect of involvement in co-creation on product attitudes and behavioural intentions: When variety seeking is high, the effect of involvement in co-creation is more positive'

H5d: Variety seeking behaviour moderates the effect of involvement in co-creation on brand attitudes and behavioural intentions: When variety seeking is high, the effect of involvement in co-creation is more positive'

H5e: 'Variety seeking behaviour moderates the effect of information about the co-creator on product attitudes and behavioural intentions: When variety seeking is high, the effect of information about the co-creator is more positive'

H5f: 'Variety seeking behaviour moderates the effect of information about the co-creator on brand attitudes and behavioural intentions: When variety seeking is high, the effect of information about the co-creator is more positive'

2.7 The effect of attitudes on behavioural intentions

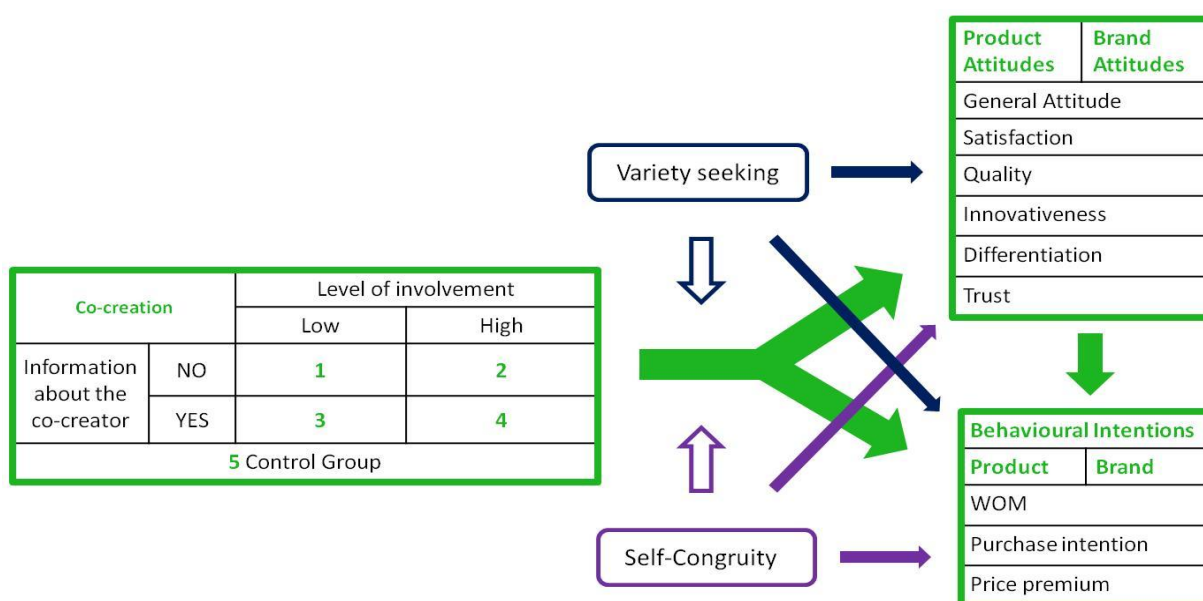
As describes in Section 2.4, attitudes are recognized as one of the major factors that guide human behaviour (Wilkie, 1986 in: Keller, 1993). The behavioural intentions central in this study are purchase intention, word of mouth and willingness to pay a price premium. It is hypothesized that behavioural intentions towards the product and brand are strongly influenced by product and brand attitudes. These product and brand attitudes are overall attitude, satisfaction, quality, innovativeness, differentiation, and trust.

H6a: Behavioural intentions towards the product are strongly influenced by the attitudes towards the product.

H6b: Behavioural intentions towards the brand are strongly influenced by the attitudes towards the brand.

Figure 5 displays the final research model of this study. The hypothesized moderating effects of self-congruity and variety seeking behaviour and the effect of attitudes on behavioural intentions are added to the first model presented in Figure 4.

Figure 5. Final research model



For a clear overview, the hypotheses tested in this study are summarized in Table 1. In this table, the main effects and moderating effects of the selected variables central in this study are shown.

Table 1. Summary of hypotheses

| Hypothesis | Main effect | Moderating effect | Moderated relationship | Direction of effect | Dependent variable: |
|------------|------------------|-------------------|----------------------------|---------------------|--------------------------------|
| H1a | Co-creation | | | Positive | Product evaluations |
| H1b | Co-creation | | | Positive | Brand evaluations |
| H2a | Involvement | | | Positive | Product evaluations |
| H2b | Involvement | | | Positive | Brand evaluations |
| H3a | Information | | | Positive | Product evaluations |
| H3b | Information | | | Positive | Brand evaluations |
| H4a | Self-congruity | | | Positive | Product evaluations |
| H4b | Self-congruity | | | Positive | Brand evaluations |
| H4c | | Self-congruity | Info → product evaluations | Positive | Product evaluations |
| H4d | | Self-congruity | Info → brand evaluations | Positive | Brand evaluations |
| H5a | Variety seeking | | | Positive | Product evaluations |
| H5b | Variety seeking | | | Positive | Brand evaluations |
| H5c | | Variety seeking | Inv → product evaluations | Positive | Product evaluations |
| H5d | | Variety seeking | Inv → brand evaluations | Positive | Brand evaluations |
| H5e | | Variety seeking | Info → product evaluations | Positive | Product evaluations |
| H5f | | Variety seeking | Info → brand evaluations | Positive | Brand evaluations |
| H6a | Product attitude | | | Positive | Product behavioural intentions |
| H6b | Brand attitude | | | Positive | Brand behavioural intentions |

Chapter 3 - Research method

The components of the research model, presented in the previous chapter, served as the basis for the research method central in this chapter. In Section 3.1 the research design, including a pre-test is discussed. The participants in this study are highlighted in Section 3.2 and finally, the research procedure and measurements are discussed in Section 3.3.

3.1 Research design and pre-test

During this study, an experiment set up as a questionnaire is conducted with a '2x2 between-subject' design and a control group. Involvement in co-creation and information about the co-creator are selected as manipulated factors in the between subject design. In the control group, no co-creation is used. This leads to five research conditions:

Figure 6. Research conditions

| Co-creation | | Level of involvement | |
|----------------------------------|-----|----------------------|------|
| | | Low | High |
| Information about the co-creator | NO | 1 | 2 |
| | YES | 3 | 4 |
| 5 Control Group | | | |

For a manipulation check of involvement in co-creation, to discover if the different levels of involvement are recognized by the participants, a pre-test study (n=15) is conducted. Participants are confronted with a new product of Pickwick and a written scenario about the development of that product. Two scenarios are used in this pre-test study: (1) a scenario with low involvement in co-creation and (2) a scenario with high involvement in co-creation. Participants are instructed to evaluate the level of involvement of the person who co-created the product, by answering two questions with six response options (1=definitely not, 6=definitely):

- *To what extent do you think Pickwick involved this person in the development process of this product?*
- *To what extend do you think that this person influenced the final product?*

Cronbach's Alpha of these two items is appropriate (.785). Participants that evaluated the high involvement scenario (M=4.00, SD=1,19) indeed perceived the level of involvement higher than participants that evaluated the low involvement scenario (M=2.57, SD=0,35), ($t(13)=-3.230, p<.011$).

3.2 Participants

In total 938 Dutch participants above the age of 16 years old conducted an online questionnaire. The recruitment of these participants took place in the researcher's own network by sharing a link to an online questionnaire via email and social media. 291 participants are recruited this way. Furthermore, the online questionnaire is spread via an online research agency, which recruited 647 participants. After a data check of all participants, 374 participants are deleted because they did not complete the total questionnaire, did not complete it as they are supposed to do or are not in the target group (do not drink tea). This resulted in data of 564 participants appropriate for analysis. Of these participants, 205 already knew the product and 54 participants tasted the product before filling in this questionnaire. The scores on product attitude and behavioural intention of participants who tasted the product, are higher compared to participants who did not know the product before seeing the advertisement. To make sure that there is no effect of previous knowledge about the product these participants are excluded. Eventually, 359 participants are used for further analysis. The amount of participants for each scenario is appropriate. Of the 359 participants, 209 (58.2%) are female and 150 (41.8%) are male. Table 2 shows more details about the participants and their tea consumption.

Table 2. Details about the participants and their tea consumption

| Variable | Category | Frequencies | Percentages | N |
|------------------|---------------------------------------|-------------|-------------|-----|
| Scenario | 1 low involvement – no information | 64 | 17.8% | 359 |
| | 2 high involvement – no information | 70 | 19.5% | |
| | 3 low involvement – information | 82 | 22.8% | |
| | 4 low involvement – information | 78 | 21.7% | |
| | 5 control group | 65 | 18.1% | |
| Sex | Male | 150 | 41.8% | 359 |
| | Female | 209 | 58.2% | |
| Age | 16-29 | 112 | 31.2% | 359 |
| | 30-39 | 51 | 14.2% | |
| | 40-49 | 60 | 16.7% | |
| | 50-59 | 70 | 19.5% | |
| | 60-older | 66 | 18.4% | |
| Family situation | Single person household | 45 | 20.0% | 225 |
| | More person household no children <18 | 106 | 47.1% | |
| | More person household children <13 | 48 | 21.3% | |
| | More person household children 13-17 | 26 | 11.6% | |
| Education | Low | 73 | 20.3% | 359 |

| | | | | |
|--|---|-----|-------|-----|
| | Middle | 165 | 46.0% | |
| | High | 121 | 33.7% | |
| General tea consumption | few cups a day | 227 | 63.2% | 359 |
| | One cup a day | 53 | 14.8% | |
| | Few cups a week | 56 | 15.6% | |
| | One cup a week | 23 | 6.4% | |
| | (Hardly or never: deleted, no target group) | | | |
| *Category involvement | Low | 72 | 20.1% | 358 |
| | Medium | 49 | 13.7% | |
| | high | 237 | 66.2% | |
| Pickwick tea consumption | Yes, Always Pickwick | 48 | 13.4% | 359 |
| | Yes, especially Pickwick | 144 | 40.1% | |
| | Yes, but not more Pickwick than another brand | 90 | 25.1% | |
| | Yes, but more tea of another brand | 53 | 14.8% | |
| | Yes, but Hardly Pickwick | 17 | 4.7% | |
| | Never Pickwick | 7 | 1.9% | |
| Brand preference (more choices possible) | Pickwick | 264 | 73.5% | 359 |
| | Lipton | 142 | 39.6% | |
| | Private label | 98 | 27.3% | |
| | Zonnatura | 40 | 11.1% | |
| | Dilmah | 9 | 2.5% | |
| | Celestial | 17 | 4.7% | |
| | Tea from a specialist | 67 | 18.7% | |
| | Other | 42 | 11.7% | |
| | No preference | 23 | 6.4% | |
| Taste Preference (more choices possible) | Black tea | 116 | 32.3% | 359 |
| | Fruit or other flavoured tea | 142 | 39.6% | |
| | Green tea | 150 | 41.8% | |
| | Herbal tea | 95 | 26.5% | |
| | Rooibos tea | 110 | 30.6% | |
| | No preference | 6 | 2.7% | 225 |
| Knowledge of Pickwick using Co-creation | Yes | 45 | 24.5% | 184 |
| | No | 139 | 75.5% | |
| | (not present in the control group scenario) | | | |

*Category Involvement is a 2-item construct with Cronbach's Alpha .894

3.3 Research procedures and measures

Participants are randomly assigned to one of the five scenarios. Before being exposed to the advertisement, participants are asked to fill in general questions about themselves and about their tea consumption and tea preferences. This short part of the questionnaire contains items that measure product category involvement.

After these general questions, participants are instructed to look at an advertisement of a new product and to read a verbal text about the development process of this new product (In the fifth scenario no verbal text about the product development process is included because this is the control group). Participants in all scenarios are exposed to the same product. The only differences between the four co-creation scenarios is the level of involvement in co-creation (high involvement and low involvement) and information about the person who co-created the product (information and no information). After reading the text, participants are asked to evaluate the new product (Pickwick Speculaas). Product attitudes and behavioural intentions are measured on a 7-point Likert scale. The most common way to measure attitudes, evaluations and behavioural intentions is through self-reports such as attitude scales (Robinson et al., 1991, in: Brehm, Kassin & Fein, 2005), a multiple-item questionnaire designed to measure a person's attitude towards an object. The most popular scale is the Likert scale (Brehm, Kassin & Fein, 2005). Using this method, respondents are presented with a list of statements about an attitude object and are asked to indicate on a multiple point scale how strongly they agree or disagree with each statement. Established scales, summarized in Table 3, are used to compose the constructs in this questionnaire.

Table 3. Constructs and established scales

| Construct | Established scale |
|------------------------------------|--|
| Overall Attitude | Batra & Stayman, 1990 in: Thomson, MacInnis & Park, 2005 |
| Satisfaction | Oliver, 1980 Aaker, 1996 |
| Quality | Low & Lamb, 2000 |
| Innovativeness | Song & Xie, 2000 Sethi, Smith & Park, 2001 |
| Differentiation | Aaker 1996 |
| Trust | Chaudhuri & Hoibrook, 2001 |
| Purchase intention | Chaudhuri & Hoibrook, 2001 |
| Word of mouth | Zeithaml, Berry & Parasuraman, 1996 |
| Willingness to pay a price premium | Zeithaml, Berry & Parasuraman, 1996 |

Analysis shows that the internal reliability of the constructs is above .700 and therefore appropriate. The items used for each construct and their corresponding Cronbach's Alpha are summarized in Table 4. For product differentiation, two out of three items of the initial construct are deleted. Internal reliability of this construct with three items or two items is not appropriate (Cronbach's Alpha for three or two items is respectively .558 and .608). For 'willingness to pay a price premium' one out of two items is deleted, because the internal reliability of the construct is not appropriate (Cronbach's Alpha .328). This resulted in a single item construct for these constructs.

Table 4. Constructs on product level

| Construct | Cronbach's Alpha | Items | Items deleted |
|------------------------------------|------------------|---|---------------|
| Product attitude | .791 | 1. I am not happy about this product 2. I think I like this product 3. I think this is a good product 4. I favour this product | 0 |
| Product satisfaction | .843 | 1. I am satisfied with the new product 2. I would rather buy a different product 3. This product is exactly what I need 4. I am not happy about the product 5. I would buy the product on the next opportunity | 0 |
| Product quality | .792 | 1. I think this is a good product 2. I think this is an excellent product 3. I think this product is of poor quality 4. I think this product is better compared to competing products | 0 |
| Product innovativeness | .749 | 1. This product was one of the first of its kind introduced into the market. 2. This product is highly innovative 3. This product is predictable 4. This product is useless 5. This product is appropriate 6. This product is original | 0 |
| Product differentiation | - | 1. This product is different compared to competing products. | 2 |
| Product trust | .757 | 1. I trust this product of Pickwick 2. This product of Pickwick is honest 3. This product of Pickwick is save | 0 |
| Purchase intention | .966 | 1. I will buy this product the next time I buy tea 2. I intend to purchase this product 3. I would buy the product on the next opportunity | 0 |
| Word of mouth | .925 | 1. I intend to say positive things about the product to other people 2. I intend to recommend the product to someone who seeks my advice 3. I intend to encourage friends and relatives to try this product | 0 |
| Willingness to pay a price premium | | 1. I rather buy another tea product that offers a better price | 1 |

After evaluating the product, in scenarios 3 and scenario 4 the level of self-congruity with the co-creator is measured. The level of self-congruity is only measured in these scenarios because they give information about the co-creator. Self-congruity is traditionally measured using semantic differential scales or Likert-type scales. Because of shortcomings of the traditional method, a new method is designed to deal with these shortcomings (Sirgy et al., 1997). In scenarios 3 and 4, this method is used to measure self-congruity with the co-creator. Using this method, self-congruity can be measured as follows.

Respondents were instructed to:

“Take a moment to think about [product x]. Think about the kind of person who typically uses [product x]. Imagine this person in your mind and then describe this person using one or more personal adjectives such as, stylish, classy, masculine, sexy, old, athletic, or whatever personal adjectives you can use to describe the typical user of [product x]. Once you've done this, indicate your agreement or disagreement to the following statement: This [product x] is consistent with how I see myself [in situation y].”

The second part of the questionnaire is not about the new product, but about the brand Pickwick. Participants are introduced to evaluate the brand Pickwick, to test whether using co-creation in product development affects the attitudes and behavioural intentions towards the brand. Brand attitudes and behavioural intentions are measured on a 7-point Likert scale as well. The same established scales used to measure product attitudes and behavioural intentions are used to measure brand attitudes and behavioural intentions (Table 3). As for attitudes and behavioural intentions on product level, analysis shows that the internal reliability of the brand constructs are appropriate. Cronbach's Alpha on the multiple item constructs are above .700 and in case of 'willingness to pay a price premium' for the brand approximately .700. The items for each brand construct are summarized in Table 5 with their corresponding Cronbach's Alpha. For brand innovativeness, one out of six construct items is deleted. Internal reliability of six items is not appropriate (Cronbach's Alpha .648).

Table 5. Constructs on brand level

| Construct | Cronbach's Alpha | Items | Items deleted |
|------------------------------------|------------------|---|---------------|
| Brand attitude | .729 | 1. I am not happy about the brand 2. I like brand 3. I think this is a good brand 4. I favour this brand | 0 |
| Brand satisfaction | .849 | 1. I am satisfied with the brand 2. I would rather buy a different brand 3. This brand is exactly what I need 4. I am not happy about the brand 5. I would buy this brand the next time I buy tea | 0 |
| Brand quality | .819 | 1. I think this is a good brand 2. I think this is an excellent brand 3. I think this brand is of poor quality 4. I think this brand is better compared to competing brands | 0 |
| Brand innovativeness | .764 | 1. This brand makes products that are one of the first of its kind introduced into the market. 2. This brand is highly innovative 3. This brand is useless 4. This brand is appropriate 5. This brand is original | 1 |
| Brand differentiation | .786 | 1. This brand is different from competing brands. 2. This brand is basically the same as competing brands. 3. This brand is better compared to competing brands | 0 |
| Brand trust | .792 | 1. I trust this brand 2. This brand is honest 3. This brand is save | 0 |
| Purchase intention | .887 | 1. I will buy this brand the next time I buy tea 2. I intend to keep purchasing this brand | 0 |
| Word of mouth | .921 | 1. I intend to say positive things about the brand to other people 2. I intend to recommend the brand to someone who seeks my advice 3. I intend to encourage friends and relatives to try this brand | 0 |
| Willingness to pay a price premium | .674 | 1. I rather buy another tea brand that offers better prices 2. I would pay a higher price than competitors charge for the benefits I currently receive from Pickwick | 0 |

Finally, to test for the effect of variety seeking, participants are asked to respond to statements about their purchase behaviour on a 5-point Likert scale. The items that Baumgartner & Steenkamp (1996) used to measure exploratory acquisition of products are used in this study to measure the

level of variety seeking behaviour. The internal reliability of the variety seeking construct is high (Cronbach's Alpha .847) and no items are deleted. Items used to measure variety seeking behaviour are summarized in Table 6.

Table 6. Construct variety seeking behaviour

| Construct | Cronbach's Alpha | Items | Items deleted |
|-----------------|------------------|---|---------------|
| Variety seeking | .847 | 1. Even though tea is available in a number of different flavours, I tend to buy the same flavour. 2. I would rather stick with a brand I usually buy than try something I am not very sure of. 3. I think of myself as a brand-loyal consumer. 4. When I see a new brand on the shelf, I'm not afraid of giving it a try. 5. When I go to a restaurant, I feel it is safer to order dishes I am familiar with. 6. If I like a brand, I rarely switch from it just to try something different. 7. I am very cautious in trying new or different products. 8. I enjoy taking chances in buying unfamiliar brands just to get some variety in my purchases. 9. I rarely buy brands about which I am uncertain how they will perform. 10. I usually eat the same kinds of foods on a regular basis. | 0 |

Chapter 4 - Results

In this chapter, the results of this study are presented. The descriptive results are of focus in Section 4.1 and in Section 4.2 the analyses used to test the hypotheses are addressed.

4.1 Descriptive results

The variables that are important in this study are tested for their correlations among each other. These variables are all the constructs on product level, the constructs on brand level, self-congruity, and variety seeking behaviour. The correlations of these continuous constructs are shown in a correlation matrix (Table 7).

It is noticeable that the product attitudes (overall attitude, satisfaction, quality, innovativeness, differentiation, and trust) are correlating positive with each other. Especially for overall product attitude, product satisfaction, product quality, and product innovativeness these correlations are very high. Furthermore, all product attitudes are correlating significantly positive with product behavioural intentions. For purchase intention and word of mouth this positive correlations are very high. For willingness to pay a price premium the correlations are significant, but low. On brand level, all constructs are correlating significantly high with each other in a positive direction.

Second, all correlations between the constructs on product level and the constructs on brand level are positive. Except for the correlations between product differentiation and purchase intention of the brand, and between product differentiation and willingness to pay a price premium for the brand, all correlations are significant.

Remarkably, variety seeking is correlating significantly negative with all the constructs on brand level and with product trust. Participants who score high on variety seeking behaviour have lower scores on product trust and lower scores on all brand evaluations. For self-congruity, the opposite is true. The correlations between self-congruity and all product and brand constructs are positive. Except for willingness to pay a price premium for the product, general brand attitude, and brand trust, these correlations are significant. Participants with higher scores on self-congruity have higher scores on product and brand evaluations.

Table 7. Correlation matrix continuous constructs

| Construct | Product attitude N=359 | Product satisfaction N=359 | Product quality N=359 | Product innovativeness N=359 | Product differentiation N=359 | Product trust N=359 | Product purchase intention N=359 | Product WOM N=359 | Product price premium N=359 | Brand attitude N=359 | Brand satisfaction N=359 | Brand quality N=359 | Brand innovativeness N=359 | Brand differentiation N=359 | Brand trust N=359 | Brand purchase intention N=359 | Brand WOM N=359 | Brand price premium N=359 | Variety seeking N=359 | Self-congruity N=160 |
|---------------------|---------------------------|-------------------------------|--------------------------|---------------------------------|----------------------------------|------------------------|-------------------------------------|----------------------|--------------------------------|-------------------------|-----------------------------|------------------------|-------------------------------|--------------------------------|----------------------|-----------------------------------|--------------------|------------------------------|--------------------------|-------------------------|
| PRAttitude | 1 | .834** | .806** | .687** | .340** | .523** | .710** | .651** | .136** | .261** | .262** | .306** | .326** | .232** | .250** | .244** | .268** | .197** | -.024 | .387** |
| PRSatisfaction | .834** | 1 | .663** | .634** | .356** | .430** | .881** | .744** | .132* | .218** | .301** | .263** | .342** | .253** | .227** | .298** | .290** | .208** | -.020 | .431** |
| PRQuality | .806** | .663** | 1 | .668** | .305** | .600** | .602** | .606** | .199** | .343** | .339** | .426** | .409** | .306** | .359** | .312** | .309** | .278** | -.056 | .322** |
| PRInnovativeness | .687** | .634** | .668** | 1 | .575** | .591** | .587** | .593** | .135* | .313** | .290** | .358** | .433** | .256** | .283** | .229** | .265** | .180** | -.027 | .330** |
| PRDifferentiation | .340** | .356** | .305** | .575** | 1 | .366** | .312** | .370** | .155** | .243** | .154** | .232** | .353** | .140** | .208** | .103 | .124* | .055 | .042 | .160* |
| PRTrust | .523** | .430** | .600** | .591** | .366** | 1 | .371** | .419** | .173** | .387** | .281** | .420** | .440** | .250** | .479** | .241** | .265** | .233** | -.117* | .200* |
| PRPurchaseintention | .710** | .881** | .602** | .587** | .312** | .371** | 1 | .814** | .137** | .206** | .316** | .239** | .353** | .249** | .221** | .341** | .340** | .191** | .002 | .343** |
| PRWord of mouth | .651** | .744** | .606** | .593** | .370** | .419** | .814** | 1 | .160** | .264** | .345** | .301** | .391** | .295** | .270** | .359** | .448** | .232** | -.008 | .435** |
| PRPrice premium | .136** | .132* | .199** | .135* | .155** | .173** | .137** | .160** | 1 | .165** | .175** | .168** | .149** | .194** | .150** | .182** | .193** | .454** | -.058 | .003 |
| BRAttitude | .261** | .218** | .343** | .313** | .243** | .387** | .206** | .264** | .165** | 1 | .789** | .824** | .707** | .492** | .737** | .620** | .589** | .445** | -.243** | .142 |
| BRsatisfaction | .262** | .301** | .339** | .290** | .154** | .281** | .316** | .345** | .175** | .789** | 1 | .836** | .695** | .661** | .665** | .895** | .819** | .641** | -.337** | .306** |
| BRQuality | .306** | .263** | .426** | .358** | .232** | .420** | .239** | .301** | .168** | .824** | .836** | 1 | .755** | .721** | .751** | .728** | .687** | .535** | -.314** | .230** |
| BRInnovativeness | .326** | .342** | .409** | .433** | .353** | .440** | .353** | .391** | .149** | .707** | .695** | .755** | 1 | .627** | .687** | .621** | .635** | .440** | -.309** | .287** |
| BRDifferentiation | .232** | .253** | .306** | .256** | .140** | .250** | .249** | .295** | .194** | .492** | .661** | .721** | .627** | 1 | .444** | .624** | .586** | .551** | -.254** | .247** |
| BRTrust | .250** | .227** | .359** | .283** | .208** | .479** | .221** | .270** | .150** | .737** | .665** | .751** | .687** | .444** | 1 | .553** | .527** | .429** | -.312** | .150 |
| BRPurchaseintention | .244** | .298** | .312** | .229** | .103 | .241** | .341** | .359** | .182** | .620** | .895** | .728** | .621** | .624** | .553** | 1 | .896** | .680** | -.294** | .261** |
| BRWord of mouth | .268** | .290** | .309** | .265** | .124* | .265** | .340** | .448** | .193** | .589** | .819** | .687** | .635** | .586** | .527** | .896** | 1 | .629** | -.278** | .332** |
| BRPrice premium | .197** | .208** | .278** | .180** | .055 | .233** | .191** | .232** | .454** | .445** | .641** | .535** | .440** | .551** | .429** | .680** | .629** | 1 | -.260** | .191* |
| Variety seeking | -.024 | -.020 | -.056 | -.027 | .042 | -.117* | .002 | -.008 | -.058 | -.243** | -.337** | -.314** | -.309** | -.254** | -.312** | -.294** | -.278** | -.260** | 1 | -.178* |
| Self-congruity | .387** | .431** | .322** | .330** | .160* | .200* | .343** | .435** | .003 | .142 | .306** | .230** | .287** | .247** | .150 | .261** | .332** | .191* | -.178* | 1 |

**Correlation is significant at the .01 level (2-tailed).

*Correlation is significant at the .05 level (2-tailed).

The goal of this study is to search for significant differences between different dimensions of co-creation. The means and standard deviations for each co-creation scenario and the control group are shown in Table 8. Based on this table the notable differences between the groups are described.

Table 8. Construct means product and brand attitudes and behavioural intentions

| Construct | Low involvement* No information n=64 M (SD) | High involvement* No information n=70 M (SD) | Low involvement* Information n=82 M (SD) | High involvement* Information n=78 M (SD) | Control Group n=65 M (SD) |
|-------------------------|---|--|--|---|------------------------------------|
| Product attitude | 3.94 (1.41) | 4.79 (1.28) | 4.23 (1.34) | 4.58 (1.44) | 4.48 (1.44) |
| Product satisfaction | 2.93(1.36) | 3.78 (1.28) | 3.08 (1.36) | 3.36 (1.18) | 3.43 (1.25) |
| Product quality | 4.29 (1.17) | 4.86 (1.11) | 4.52 (1.14) | 4.59 (1.15) | 4.57 (1.23) |
| Product innovativeness | 4.31 (1.09) | 4.79 (1.06) | 4.42 (1.12) | 4.73 (0.88) | 4.46 (1.11) |
| Product differentiation | 4.29 (1.09) | 4.77 (1.18) | 4.69 (1.38) | 4.73 (1.07) | 4.50 (1.23) |
| Product trust | 5.20 (1.18) | 5.51 (0.98) | 5.36 (1.07) | 5.40 (0.93) | 5.12 (1.20) |
| Product purchase Int. | 2.45 (1.87) | 3.32 (1.96) | 2.67 (1.77) | 2.91 (1.74) | 3.25 (1.96) |
| Product word of mouth | 2.48 (1.51) | 3.11 (1.47) | 2.91 (1.69) | 2.98 (1.41) | 3.10 (1.74) |
| Product price premium | 4.50 (1.81) | 4.53 (1.69) | 4.72 (1.90) | 4.77 (1.57) | 4.55 (1.81) |
| Brand attitude | 5.80 (1.10) | 5.82 (0.91) | 6.11 (0.65) | 5.83 (0.94) | 5.95 (0.75) |
| Brand satisfaction | 4.98 (1.36) | 5.07 (1.22) | 5.44 (1.09) | 4.98 (1.28) | 5.21 (1.12) |
| Brand quality | 5.53 (1.18) | 5.56 (1.02) | 5.80 (0.87) | 5.58 (1.10) | 5.62 (0.93) |
| Brand innovativeness | 5.34 (0.87) | 5.48 (0.79) | 5.58 (0.76) | 5.34 (0.78) | 5.29 (0.82) |
| Brand differentiation | 4.53 (1.49) | 4.62 (1.22) | 4.69 (1.37) | 4.57 (1.22) | 4.78 (1.03) |
| Brand trust | 5.68 (0.99) | 5.64 (1.00) | 5.85 (0.72) | 5.38 (1.07) | 5.61 (0.91) |
| Brand purchase Int. | 4.63 (1.83) | 4.85 (1.65) | 5.35 (1.43) | 4.58 (1.88) | 4.90 (1.57) |
| Brand word of mouth | 4.09 (1.76) | 4.46 (1.42) | 4.94 (1.45) | 4.21 (1.80) | 4.49 (1.73) |
| Brand price premium | 4.46 (1.65) | 4.40 (1.57) | 4.73 (1.51) | 4.40 (1.62) | 4.64 (1.34) |

What is notable on product level is that the mean scores of the scenarios that display high involvement in co-creation (scenario 2 and 4) are higher than the mean scores of the scenarios that display low involvement in co-creation (scenario 1 and 3). This shows that there could be a main effect of involvement in co-creation on product evaluations. Especially, between scenario 1 and 2, that give no information about the co-creator, there is a big difference.

Furthermore, it is notable that the mean scores of scenario 3 (Low involvement*Information) are lower than scenario 2 (High involvement*No Information). This could mean that the main effect of the level of involvement is stronger than the main effect of Information about the co-creator. When comparing the mean scores of scenario 1 (Low involvement*no information) and 3 (low involvement*Information), it seems that giving information about the co-creator has a positive effect

when involvement in co-creation is low. Between the high involvement scenarios (2 and 4) this effect of information about the co-creator does not appear to show the same effect.

Remarkably, almost all scores of participants in scenario 1 (Low involvement*no information) are lower than the mean scores of participants in scenario 5 (control group). Furthermore, almost all scores of participants in scenario 2 (High involvement*no information) are higher than the mean scores of the control group.

On brand level it is noticeable that the mean scores of participants in scenario 3 (low involvement*information) are higher than the means scores of participants in scenario 1 (low involvement*no information). This could indicate an effect of information about the co-creator when involvement in co-creation is low. Unlike for the attitudes and behavioural intentions on product level, it seems that there is no notable effect of involvement in co-creation on brand evaluations.

4.2 Hypothesis testing

The descriptive results in the previous section give a lot of information. However, they do not answer the hypotheses of this study. In this section, analysis is computed for hypothesis testing.

4.2.1 Main effect of co-creation

Hypothesis 1a and 1b suspect that awareness of co-creation has a positive effect on product and brand attitudes and behavioural intentions. A multivariate analysis of variance (MANOVA), with product and brand attitudes and behavioural intentions as dependent variables and the scenarios as independent variable, is conducted to investigate whether there are significant differences between one of the co-creation scenarios (1 – 4) and the control group (5). Because this study contains 16 constructs, the *F*-values and *p*-values resulting from the MANOVA are shown in Table 9. Means and standard deviations are shown in Table 8.

Table 9. Multivariate analysis of variance of the research scenarios

| Construct Product level | <i>F</i> -Value | <i>p</i> -value | Construct Brand level | <i>F</i> -Value | <i>p</i> -value |
|----------------------------|-----------------|-----------------|--------------------------|-----------------|-----------------|
| Product attitude | 3.849 | .004 | Brand attitude | 1.716 | .146 |
| Product satisfaction | 4.587 | .001 | Brand satisfaction | 2.002 | .094 |
| Product quality | 2.063 | .085 | Brand quality | .880 | .476 |
| Product innovativeness | 2.703 | .030 | Brand innovativeness | 1.647 | .162 |
| Product differentiation | 1.878 | .114 | Brand differentiation | .420 | .794 |
| Product trust | 1.445 | .219 | Brand trust | 2.492 | .043 |
| Product purchase intention | 2.732 | .029 | Brand purchase intention | 2.625 | .035 |
| Product word of mouth | 1.743 | .140 | Brand word of mouth | 3.023 | .018 |
| Product price premium | .350 | .844 | Brand price premium | .718 | .580 |

For product attitude, product satisfaction, product innovativeness, product purchase intention, brand trust, brand purchase intention, and brand word of mouth, significant differences between the scenarios are found. A post hoc test shows that there are no significant differences between one of the co-creation scenarios (scenario 1-4) and the control group (scenario 5). This means that H1a and H1b are not confirmed.

No main effect of co-creation is found on product and brand attitudes and behavioural intentions. However, the post hoc test shows significant differences between the dimensions of co-creation. For product attitude ($F(4,354) = 3.849, p < .01$), product satisfaction ($F(4,354) = 4.587, p < .01$) and product quality ($F(4,354) = 2.063, p < .05$) the scores of participants in scenario 2 (high involvement*no information) are higher than the scores of participants in scenario 1 (low involvement*no information). For product satisfaction ($F(4,354) = 4.587, p < .01$) scores of participants in scenario 2 (high involvement*no information) are significant higher than the scores of participants in scenario 3 (low involvement*information). For word of mouth about the brand ($F(4,354) = 3.023, p < .01$), the scores of participants in scenario 3 (low involvement*information) are significant higher than the scores of participants in scenario 1 (low involvement*no information). Finally, for brand trust ($F(4,354) = 2.492, p = .02$) and brand purchase intention ($F(4,354) = 2.625, p < .04$), the scores of participants in scenario 3 (low involvement*information) are significant higher than the scores of participants in scenario 4 (high involvement*information). The post hoc test shows no significant differences between the scenarios for product innovativeness and purchase intention of the product anymore.

To summarize:

H1a: *'Non co-creating consumers demonstrate more favourable attitudes and behavioural intentions towards a product when they know the product is developed in co-creation with users'* **is not supported.**

H1b: *'Non co-creating consumers demonstrate more favourable attitudes and behavioural intentions towards the brand when they know the brand is developing products in co-creation with users'* **is not supported.**

In the next section, the main effects of the level of involvement in co-creation and information about the co-creator are tested.

4.2.2 Main effect of involvement and information

Hypothesis 2a and 2b suggest that high involvement in co-creation leads to higher scores on product and brand evaluations compared to low involvement in co-creation. Furthermore, hypothesis 3a and 3b suggest that information about the co-creator leads to more favourable scores on product and brand evaluations compared to no information about the co-creator. To test for the main effects of level of involvement in co-creation and information about the co-creator a 2x2 Multivariate analysis of variance (MANOVA) is conducted with all the product and brand constructs as dependent variables and level of involvement (low vs. high) and information about the co-creator (yes vs. no) as independent variables. Next to the main effects, the interaction effects between these dimensions are measured. The findings are summarized in Table 10.

Table 10. Main effects and interaction effects of involvement and information

| Dependent Variable | Main effect Involvement | | Main effect Information | | Interaction Effect | |
|----------------------------|-------------------------|---------|-------------------------|---------|--------------------|---------|
| | F-value | p-value | F-value | p-value | F-value | p-value |
| Product attitude | 13.962 | .000 | .049 | .824 | 2.456 | .118 |
| Product satisfaction | 13.889 | .000 | .822 | .365 | 3.636 | .058 |
| Product quality | 5.717 | .017 | .014 | .905 | 3.444 | .065 |
| Product innovativeness | 10.312 | .001 | .060 | .807 | .460 | .498 |
| Product differentiation | 3.500 | .062 | 1.645 | .201 | 2.474 | .117 |
| Product trust | 2.027 | .156 | .029 | .864 | 1.279 | .259 |
| Product purchase intention | 6.723 | .010 | .190 | .664 | 2.233 | .136 |
| Product word of mouth | 3.741 | .054 | .674 | .412 | 2.488 | .116 |
| Product price premium | .037 | .849 | 1.262 | .262 | .003 | .959 |
| Brand attitude | 1.580 | .210 | 2.262 | .134 | 2.012 | .157 |
| Brand satisfaction | 1.664 | .198 | 1.642 | .201 | 3.662 | .057 |
| Brand quality | .592 | .442 | 1.506 | .221 | 1.086 | .298 |
| Brand innovativeness | .274 | .601 | .279 | .598 | 3.930 | .048 |
| Brand differentiation | .003 | .958 | .125 | .724 | .466 | .496 |
| Brand trust | 5.227 | .023 | .150 | .699 | 3.570 | .060 |
| Brand purchase intention | 1.877 | .172 | 1.347 | .247 | 6.252 | .013 |
| Brand word of mouth | .894 | .345 | 2.514 | .114 | 8.398 | .004 |
| Brand price premium | 1.097 | .296 | .547 | .460 | .517 | .473 |

On product level, a main effect of involvement in co-creation is found for product attitude ($F(1,290) = 13.962, p < .01$), product satisfaction ($F(1,290) = 13.889, p < .01$), product quality ($F(1,290) = 5.717, p < .02$), product innovativeness ($F(1,290) = 5.717, p < .02$), and product purchase intentions ($F(1,290) = 10.312, p < .01$). High involvement in co-creation leads to higher scores compared to low involvement in co-creation. For means and standard deviations, see Table 15 in Appendix C.

On brand level, low involvement in co-creation leads to higher scores on brand trust compared to high involvement in co-creation ($F(1,290) = 5.227, p < .03$). It is observed that for all constructs on brand level the scores are higher when involvement in co-creation is low compared to high. Only for brand trust this effect appears to be significant. It is expected that high involvement in co-creation would lead to higher scores compared to low involvement. Therefore, H2b is not confirmed.

No main effect of information about the co-creator is found on either brand or product level, which means that H3a and H3b are not supported. For an overview of all the means and standard deviations of information about the co-creator and no information about the co-creator, see Table 16 in Appendix C. It is observed that in a few cases involvement in co-creation and information about the co-creator interact with each other.

Summarized:

H2a: *‘High involvement in co-creation leads to more favourable attitudes and behavioural intentions towards the product, compared to low involvement in co-creation’ is supported for product attitude, product satisfaction, product quality, product innovativeness, and product purchase intention.*

H2b: *‘High involvement in co-creation leads to more favourable attitudes and behavioural intentions towards the brand, compared to low involvement in co-creation’ is not supported.*

H3a: *‘information about the co-creator leads to more favourable attitudes and behavioural intentions towards the product, compared to no information about the co-creator’ is not supported.*

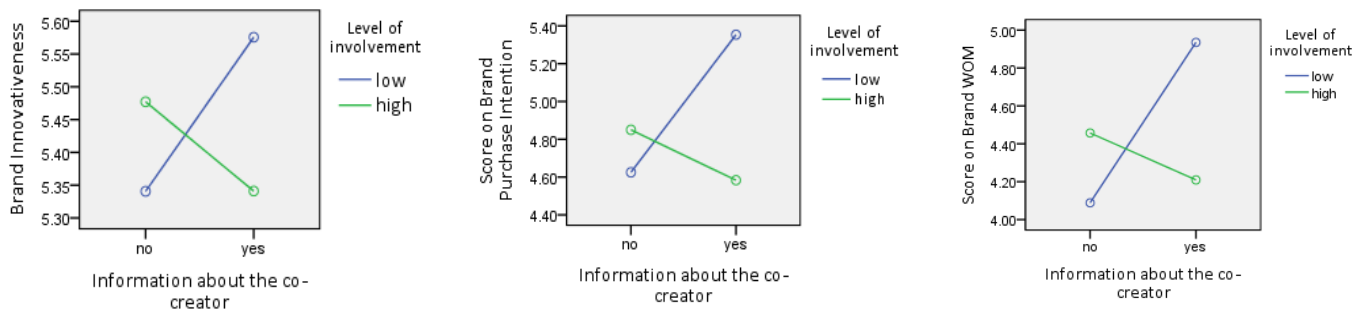
H3b: *‘information about the co-creator leads to more favourable attitudes and behavioural intentions towards the brand, compared to no information about the co-creator’ is not supported.*

4.2.3 Interaction effects

To measure the interaction between involvement in co-creation and information about the co-creator a 2x2 multivariate analysis of variance (MANOVA) is computed. As shown in Table 10, interaction effects are found for brand innovativeness ($F(1,290) = 3.930, p < .05$); brand purchase intention ($F(1,290) = 8.398, p < .01$); and brand word of mouth ($F(1,290) = 6.252, p < .02$). Figure 7 shows that for the low involvement group, information about the co-creator leads to higher scores

on brand innovativeness, brand purchase intention, and brand word of mouth. For the high involvement group information about the co-creator leads to lower scores on brand innovativeness, brand purchase intention, and brand word of mouth. For low involvement in co-creation, the positive effect of information about the co-creator is stronger than the negative effect of information about the co-creator when involvement in co-creation is high.

Figure 7. Interaction effects of involvement and information



4.2.4 Moderating effect of self-congruity

Hypothesis 4a and 4b suggest that there is a main effect of self-congruity on product and brand evaluations. No main effect of information about the co-creator is found. Hypothesis 4c and 4d suggest that self-congruity is moderating the effect of information about the co-creator.

The level of self-congruity with the co-creator is only measured in two of the five scenarios that include information about the co-creator (scenario 3 and 4). Therefore, no interaction effect between the level of self-congruity with the co-creator and information about the co-creator can be measured. Only the level of self-congruity can be selected in a General Linear Model. Information about the co-creator can not be included, which means that self-congruity is only measured for a main effect. This main effect is found for 13 out of 18 constructs. Participants who score high on self-congruity with the co-creator have higher scores on product and brand evaluations compared to participants with low scores on self-congruity with the co-creator. Except for willingness to pay a price premium for the product, brand attitude, brand differentiation, brand trust, and willingness to pay a price premium for the brand, these main effects are significant. Mean scores, standard deviations, *F*-values and *p*-values are summarized in Table 11. H4a is supported for 8 out of 9 constructs and H4b is supported for 5 out of 9 constructs.

Table 11. Main effects of self-congruity

| Construct | Low self-congruity n=116 M (SD) | High self-congruity n=44 M (SD) | F-value | p-value |
|----------------------------|---------------------------------------|---------------------------------------|---------|---------|
| Product attitude | 4.13 (1.41) | 5.11 (1.11) | 8.046 | .000 |
| Product satisfaction | 2.95 (1.22) | 3.93 (1.15) | 10.187 | .000 |
| Product quality | 4.36 (1.17) | 5.06 (0.89) | 5.778 | .003 |
| Product innovativeness | 4.39 (1.06) | 5.07 (0.71) | 6.966 | .001 |
| Product differentiation | 4.59 (1.29) | 5.03 (1.03) | 3.237 | .040 |
| Product trust | 5.24 (1.06) | 5.76 (0.71) | 4.176 | .016 |
| Product purchase intention | 2.53 (1.70) | 3.48 (1.73) | 4.952 | .008 |
| Product word of mouth | 2.61 (1.47) | 3.82 (1.44) | 9.934 | .000 |
| Product price premium | 4.74 (1.73) | 4.75 (1.79) | .673 | .511 |
| Brand attitude | 5.91 (0.83) | 6.14 (0.77) | 1.921 | .148 |
| Brand satisfaction | 5.04 (1.27) | 5.67 (0.90) | 4.754 | .009 |
| Brand quality | 5.58 (1.05) | 5.99 (0.77) | 3.297 | .038 |
| Brand innovativeness | 5.34 (0.79) | 5.79 (0.65) | 5.796 | .003 |
| Brand differentiation | 4.51 (1.35) | 4.96 (1.10) | 2.064 | .128 |
| Brand trust | 5.56 (0.98) | 5.80 (0.78) | 1.016 | .363 |
| Brand purchase intention | 4.76 (1.80) | 5.55 (1.27) | 4.006 | .019 |
| Brand word of mouth | 4.30 (1.70) | 5.33 (1.29) | 7.432 | .001 |
| Brand price premium | 4.47 (1.57) | 4.85 (1.55) | 1.110 | .331 |

In Section 4.2.2, no main effect is found of information about the co-creator on product and brand evaluations (H3a and H3b are not supported). To test for a moderating effect of self-congruity, new variables are computed. Participants who indicated their level of self-congruity with the co-creator are split up into low and high scores on self-congruity. This leads to the following groups for analysis:

1. Information about the co-creator and low scores on self-congruity
2. Information about the co-creator and high scores on self-congruity
3. Co-creation but no information about the co-creator
4. No co-creation (control group)

A Multivariate Analysis of Variance (MANOVA) shows that participants who received information about the co-creator and have higher scores on self-congruity (group 2 in Table 12), have higher scores on product and brand evaluations compared to participants who did not receive information about the co-creator (Group 3 in Table 12). This effect is significant for product attitude ($F(3,355) = 5.415, p < .02$); product innovativeness ($F(3,355) = 4.779, p = .03$); product word of mouth ($F(3,355) = 7.148, p < .01$); brand satisfaction ($F(3,355) = 3.404, p < .02$); brand innovativeness ($F(3,355) = 4.231, p < .04$); brand purchase intention ($F(3,355) = 2.794, p < .04$); and brand word of mouth ($F(3,355) =$

5.186, $p < .01$). For these constructs, self-congruity has a moderating effect on information about the co-creator. H5e and H5f are supported for these constructs. Means and Standard deviations are shown in Table 12.

Table 12. Moderating effects of self-congruity

| Construct | 1 Information low self-congruity n=116 M (SD) | 2 Information high self-congruity n=44 M (SD) | 3 Co-creation no information n=134 M (SD) | 4 Control Group n=65 M (SD) | Significance tests F-value (p-value) |
|-------------------------|---|---|---|--------------------------------------|---|
| Product attitude | 4.13 (1.41) | 5.11 (1.11) | 4.39 (1.40) | 4.48 (1.44) | 5.415 (.001) |
| Product satisfaction | 2.95 (1.22) | 3.93 (1.15) | 3.38 (1.38) | 3.43 (1.25) | 6.799 (.000) |
| Product quality | 4.37 (1.17) | 5.06 (0.89) | 4.59 (1.17) | 4.57 (1.23) | 3.843 (.010) |
| Product innovativeness | 4.39 (1.06) | 5.07 (0.71) | 4.56 (1.09) | 4.46 (1.11) | 4.779 (.003) |
| Product differentiation | 4.59 (1.29) | 5.03 (1.03) | 4.54 (1.16) | 4.50 (1.23) | 2.169 (.091) |
| Product trust | 5.24 (1.06) | 5.76 (0.71) | 5.37 (1.09) | 5.12 (1.20) | 3.555 (.015) |
| Product purchase int. | 2.53 (1.70) | 3.48 (1.73) | 2.91 (1.96) | 3.25 (1.96) | 3.801 (.010) |
| Product word of mouth | 2.61 (1.47) | 3.83 (1.44) | 2.81 (1.52) | 3.10 (1.74) | 7.148 (.000) |
| Product price premium | 4.74 (1.73) | 4.75 (1.79) | 4.51 (1.74) | 4.55 (1.81) | .455 (.714) |
| Brand attitude | 5.91 (0.83) | 6.14 (0.77) | 5.81 (1.00) | 5.95 (0.88) | 1.654 (.177) |
| Brand satisfaction | 5.04 (1.27) | 5.67 (0.90) | 5.03 (1.29) | 5.21 (1.12) | 3.505 (.016) |
| Brand quality | 5.58 (1.05) | 5.99 (0.77) | 5.54 (1.10) | 5.62 (0.93) | 2.271 (.080) |
| Brand innovativeness | 5.34 (0.79) | 5.79 (0.65) | 5.41 (0.83) | 5.29 (0.82) | 4.231 (.006) |
| Brand differentiation | 4.51 (1.35) | 4.96 (1.10) | 4.58 (1.35) | 4.78 (1.03) | 1.766 (.153) |
| Brand trust | 5.56 (0.98) | 5.79 (0.78) | 5.66 (0.99) | 5.61 (0.91) | .723 (.539) |
| Brand purchase int. | 4.76 (1.78) | 5.55 (1.27) | 4.74 (1.74) | 4.90 (1.57) | 2.794 (.040) |
| Brand word of mouth | 4.30 (1.70) | 5.33 (1.29) | 4.28 (1.60) | 4.49 (1.73) | 5.186 (.002) |
| Brand price premium | 4.47 (1.57) | 4.85 (1.55) | 4.43 (1.60) | 4.64 (1.34) | 1.009 (.389) |

After further analysis it is noticeable that participants who received information about the co-creator and have higher scores on self-congruity, show more favourable product and brand evaluations compared to the control group (no co-creation). These effects are significant for product innovativeness ($F(3,355) = 4.779$, $p < .02$), product trust ($F(3,355) = 3.555$, $p < .02$); brand innovativeness ($F(3,355) = 4.231$, $p < .01$); and brand word of mouth $F(3,355) = 5.186$, $p < .05$).

Summarized:

H4a: 'There is a positive effect of self-congruity with the co-creator on product attitudes and behavioural intentions' is supported for product attitude, product

satisfaction, product quality, product innovativeness, product differentiation, product trust, product purchase intention and product word of mouth.

H4b: *“There is a positive effect of self-congruity with the co-creator on brand attitudes and behavioural intentions”* **is supported for brand satisfaction, brand quality, brand innovativeness, brand purchase intention and brand word of mouth.**

H4c: *“Self-congruity moderates the effect of information about the co-creator on product evaluations: When self-congruity with the co-creator is high, the effect of information about the co-creator is more positive”* **is supported for product attitude, product innovativeness, and product word of mouth.**

H4d: *“Self-congruity moderates the effect of information about the co-creator on brand evaluations: When self-congruity with the co-creator is high, the effect of information about the co-creator is more positive”* **is supported for brand satisfaction, brand innovativeness, brand purchase intention, and brand word of mouth.**

4.2.5 Variety seeking

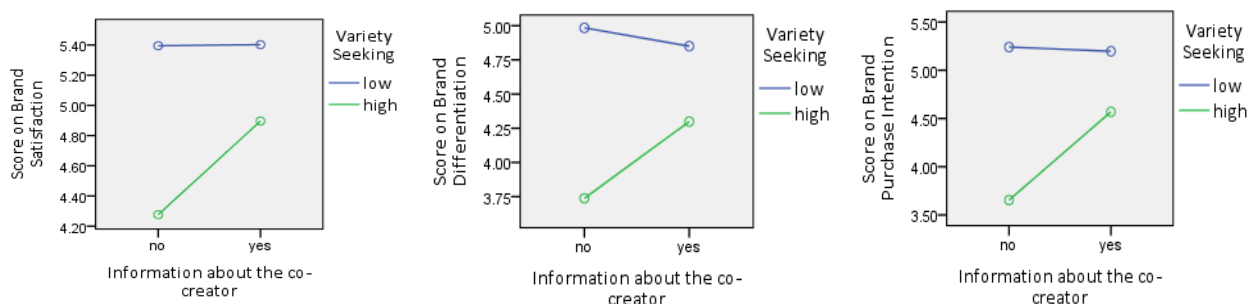
Hypothesis 5a and 5b suggest that variety seeking behaviour has a main effect on product and brand evaluations. Furthermore, it is suggested that variety seeking behaviour is moderating the effect of involvement in co-creation (H5c and H5d) and information about the co-creator (H5e and H5f) on product and brand evaluations. A 3x2 Multivariate Analysis of Variance (MANOVA) is computed with all the product and brand constructs as dependent variables and level of involvement, information about the co-creator and variety seeking behaviour as independent variables.

A main effect of variety seeking behaviour is found for all constructs on brand level and for product trust. *F*-values, *p*-values, mean scores, and standard deviations are summarized in Table 13 on page 48. It is found that participants who score *low* on variety seeking have higher scores on product and brand evaluations. For Product trust and all the constructs on brand level, this effect is significant. Because it was expected that high scores on variety seeking behaviour leads to higher scores on product and brand evaluations instead of lower scores, H5a and H5b are not supported.

Furthermore, no support is found for H5c and H5d. Variety seeking behaviour does not moderate the effect of involvement in co-creation on product and brand evaluations. The interaction effects between the level of involvement in co-creation and variety seeking behaviour are shown in Table 13 on page 48. More important, it is found that variety seeking does moderate the effect of information

about the co-creator on brand satisfaction ($F(1,268) = 4.009, p < .05$), brand differentiation ($F(1,268) = 4.746, p = .03$) and brand purchase intention ($F(1,268) = 5.208, p < .03$). As shown in Figure 8, for high variety seekers, information about the co-creator leads to higher scores on brand satisfaction, brand differentiation, and brand purchase intention compared to no information about the co-creator. For low variety seekers, information about the co-creator does not appear to have an effect.

Figure 8. Moderating effect of variety seeking



Variety seeking does not moderate the effect of information about the co-creator on product level. Hypothesis 5e is not supported and hypothesis 5f is supported for brand satisfaction, brand differentiation, and brand purchase intention.

Summerized:

H5a: *‘There is a positive effect of variety seeking behaviour on product attitudes and behavioural intentions’ is not supported*

H5b: *‘There is a positive effect of variety seeking behaviour on brand attitudes and behavioural intentions’ is not supported*

H5c: *‘Variety seeking behaviour moderates the effect of involvement in co-creation on product attitudes and behavioural intentions: When variety seeking is high, the effect of involvement in co-creation is more positive’ is not supported*

H5d: *Variety seeking behaviour moderates the effect of involvement in co-creation on brand attitudes and behavioural intentions: When variety seeking is high, the effect of involvement in co-creation is more positive’ is not supported*

H5e: *'Variety seeking behaviour moderates the effect of information about the co-creator on product attitudes and behavioural intentions: When variety seeking is high, the effect of information about the co-creator is more positive'* **is not supported**

H5f: *'Variety seeking behaviour moderates the effect of information about the co-creator on brand attitudes and behavioural intentions: When variety seeking is high, the effect of information about the co-creator is more positive'* **is supported for brand satisfaction, brand differentiation, and brand purchase intention.**

Table 13. Main effects and moderating effects of variety seeking behaviour

| Dependent Variable | Low Variety seeking n=172 M (SD) | High variety seeking n=100 M (SD) | Main effect Variety Seeking | | Variety Seeking*Involvement | | Variety Seeking*Information | | 3 way interaction | |
|-------------------------|--|---|--------------------------------|---------|--------------------------------|---------|--------------------------------|---------|-------------------|---------|
| | | | F-value | p-value | F-value | p-value | F-value | p-value | F-value | p-value |
| Product attitude | 4.48 (1.33) | 4.23 (1.54) | 1.407 | .237 | .555 | .457 | 3.316 | .070 | .026 | .871 |
| Product satisfaction | 3.38 (1.26) | 3.13 (1.34) | 1.954 | .163 | 1.093 | .297 | .033 | .857 | .061 | .804 |
| Product quality | 4.63 (1.08) | 4.39 (1.29) | 2.406 | .122 | .679 | .411 | 1.676 | .197 | .016 | .898 |
| Product innovativeness | 4.59 (1.07) | 4.40 (1.07) | 2.026 | .156 | .036 | .849 | .019 | .891 | .401 | .527 |
| Product differentiation | 4.58 (1.22) | 4.60 (1.20) | .220 | .639 | .016 | .899 | .661 | .417 | .829 | .363 |
| Product trust | 5.47 (0.99) | 5.06 (1.17) | 8.305 | .004 | .092 | .762 | .041 | .840 | .447 | .504 |
| Product purchase int. | 2.95 (1.91) | 2.75 (1.77) | .409 | .523 | 1.260 | .263 | .381 | .538 | .027 | .869 |
| Product word of mouth | 2.95 (1.59) | 2.78 (1.52) | .593 | .442 | .600 | .439 | .212 | .645 | .174 | .677 |
| Product price premium | 4.72 (1.79) | 4.48 (1.67) | .732 | .393 | .104 | .748 | 2.379 | .124 | .558 | .456 |
| Brand attitude | 6.07 (0.78) | 5.65 (0.99) | 14.299 | .000 | .390 | .533 | 1.564 | .212 | .819 | .366 |
| Brand satisfaction | 5.44 (1.15) | 4.63 (1.23) | 27.424 | .000 | .286 | .593 | 4.570 | .033 | .625 | .430 |
| Brand quality | 5.88 (0.89) | 5.21 (1.14) | 26.790 | .000 | .012 | .912 | .971 | .325 | 1.116 | .292 |
| Brand innovativeness | 5.59 (0.75) | 5.06 (0.81) | 29.370 | .000 | .153 | .696 | .880 | .349 | .034 | .854 |
| Brand differentiation | 4.93 (1.29) | 4.15 (1.11) | 31.403 | .000 | .004 | .953 | 4.879 | .028 | .377 | .540 |
| Brand trust | 5.85 (0.84) | 5.27 (1.05) | 24.534 | .000 | .978 | .324 | .169 | .681 | .617 | .433 |
| Brand purchase int. | 5.25 (1.60) | 4.19 (1.68) | 27.241 | .000 | .599 | .439 | 6.122 | .014 | .161 | .689 |
| Brand word of mouth | 4.77 (1.61) | 3.82 (1.58) | 24.642 | .000 | .029 | .865 | 2.951 | .087 | .096 | .757 |
| Brand price premium | 4.85 (1.52) | 4.01 (1.45) | 15.947 | .000 | 1.171 | .280 | 3.837 | .051 | .249 | .618 |

4.2.6 Effect of attitudes on behavioural intentions

To test whether the product and brand attitudes are significant predictors of behavioural intentions, linear regression analyses are performed. Results show that product attitude, product satisfaction, product quality, and product innovativeness are significant predictors of purchase intention of the product $R^2=.786$ ($F(6,352) = 215.166, p<.001$). Product satisfaction and product quality are significant predictors of product word of mouth $R^2=.594$ ($F(6,352) = 85.752, p<.001$), and product satisfaction, product quality and product differentiation are significant predictors of willingness to pay a price premium for the product $R=.059$ ($F(6,352) = 3.703, p=.001$).

On brand level, brand attitude and brand satisfaction are significant predictors of purchase intention of the brand $R^2=.824$ ($F(6,352) = 274.448, p>.001$). Brand attitude, brand satisfaction and brand differentiation are significant predictors of brand word of mouth $R^2=.699$ ($F(6,352) = 136.002, p<.001$), and brand satisfaction and brand trust are significant predictors of willingness to pay a price premium for the brand $R^2=.455$ ($F(6,352) = 48.976, p=.001$). In Table 14, these findings are summarized.

Table 14. Effect of attitudes on behavioural intentions

| Dependent Variable | Independent Variable | R^2 | t | β | P |
|--|-------------------------|-------|--------|---------|------|
| Product purchase intention | Product attitude | .786 | -3.283 | -.189 | .001 |
| | Product satisfaction | | 20.611 | .940 | .000 |
| | Product quality | | 2.260 | .103 | .024 |
| | Product innovativeness | | 2.155 | .091 | .032 |
| | Product differentiation | | -.895 | -.027 | .371 |
| | Product trust | | -1.227 | -.040 | .221 |
| Product word of mouth | Product attitude | .594 | -1.799 | -.142 | .075 |
| | Product satisfaction | | 10.032 | .630 | .000 |
| | Product quality | | 3.233 | .202 | .001 |
| | Product innovativeness | | 1.935 | .113 | .054 |
| | Product differentiation | | 1.511 | .064 | .132 |
| | Product trust | | .252 | .011 | .801 |
| Product willingness to pay a price premium | Product attitude | .059 | -1.015 | -.122 | .311 |
| | Product satisfaction | | .613 | .059 | .540 |
| | Product quality | | 2.499 | .238 | .013 |
| | Product innovativeness | | -1.140 | -.101 | .255 |
| | Product differentiation | | 2.057 | .132 | .040 |
| | Product trust | | 1.172 | .080 | .242 |
| Brand purchase intention | Brand attitude | .824 | -5.591 | -.260 | .000 |
| | Brand satisfaction | | 22.889 | 1.023 | .000 |

| | | | | |
|--|-----------------------|-------|--------|-------|
| | Brand quality | .652 | .038 | .515 |
| | Brand innovativeness | .643 | .016 | .521 |
| | Brand differentiation | 1.679 | .064 | .094 |
| | Brand trust | .347 | .013 | .729 |
| Brand word of mouth | Brand attitude | .699 | -3.840 | -.234 |
| | Brand satisfaction | | 14.620 | .854 |
| | Brand quality | | .592 | .045 |
| | Brand innovativeness | | .863 | .028 |
| | Brand differentiation | | 3.890 | .195 |
| | Brand trust | | -.177 | -.008 |
| Brand willingness to pay a price premium | Brand attitude | .456 | -1.402 | -.115 |
| | Brand satisfaction | | 7.971 | .626 |
| | Brand quality | | -1.347 | -.138 |
| | Brand innovativeness | | .965 | .041 |
| | Brand differentiation | | -1.290 | -.087 |
| | Brand trust | | 4.384 | .281 |

H6a: ‘Behavioural intentions towards the product are strongly influenced by the attitudes towards the product’ is **partly supported**.

H6b: ‘Behavioural intentions towards the brand are strongly influenced by the attitudes towards the brand’ is **partly supported**.

Chapter 5 - Discussion

“How does awareness of co-creation in NPD affects product and brand attitudes and behavioural intentions of non co-creative consumers?” In this chapter, the research question is answered. In Section 5.1, the results of this study are discussed. In Section 5.2, managerial implications are presented and in Section 5.3, the limitations of this study and recommendations for future research and practice are discussed.

5.1 Discussion of the results

Co-creation can influence product and brand evaluations. However, hypothesis 1a and hypothesis 1b are not confirmed. No main effect of co-creation versus no co-creation on product and brand evaluations is found within this study. In line with this study, Fuchs and Schreier (2011) did not find evidence for the effect of consumer empowerment on product attitudes. Contradictory, they did find evidence for the effect of consumer empowerment on behavioural intentions and corporate attitudes. A possible explanation, for the lack of evidence that the use of co-creation has a main effect on product and brand evaluations, can be that consumers who did not participate in co-creation do not see the advantages of using co-creation. Non co-creative consumers might not believe a product is better when it is co-created with a consumer than when it is created by an expert. Another possible explanation is the concept of processing fluency. Pictures are more attention getting, pleasant, and easier to process than verbal text. Consequently, viewers attend more to the picture and less on the more effortful verbal text (Edell & Staelin, 1983). In the co-creation scenarios, a verbal text is included to explain about the co-creation process. In the control group, no verbal text with information about the use of co-creation is included. The advertisement was a picture of the new product in a certain setting. It is possible that a picture alone in the control group is easier to process and therefore the co-creation scenarios are not significant different from the control group.

When contrasting the four co-creation scenarios (low involvement vs. high involvement x information vs. no information) against each other, different effects are found. Product attitude, product satisfaction, product quality, product innovativeness, and purchase intention of the product are more favourable when the level of involvement in co-creation is high compared to low involvement. Hypothesis 2a is confirmed for these constructs. Although the levels of involvement in this study are different from the empowerment scenarios that Fuchs and Schreier (2011) used, for the behavioural intention effect described here, this finding is consistent with their finding that the more involved the consumer is, the better the evaluations. In contrast to this study, for product

attitude, Fuchs and Schreier (2011) could not find any differences between the different involvement scenarios.

Besides the differences between high and low involvement in co-creation, it is observed in this study that the dimensions of co-creation differ from the control group. High involvement in co-creation leads to higher scores on product evaluations compared to no co-creation and low involvement in co-creation leads to lower scores compared to no co-creation. Although this tendency does not appear to be significant, when communicating about the use of co-creation it is good to keep this in mind.

On brand level, high involvement in co-creation leads to a lower score on brand trust compared to low involvement in co-creation. A possible explanation might be that companies use experts for NPD and consumers are not perceived equal to experts. Because it was expected that high involvement in co-creation would lead to higher scores, hypothesis 2b is not confirmed. Because Pickwick is the number one tea brand, and well known in the Netherlands (awareness of the brand was 100% under participants) it is possible that participants have already formed strong attitudes towards the brand. It can be difficult to change these attitudes. Especially when consumers think the new product is in line with other products Pickwick introduces without co-creation, and is therefore not distinctive. In this case, co-creation might not have an influence on brand level. No main effect of information about the co-creator on product and brand evaluations is found. Hypothesis 3a and 3b are not confirmed. Since not all consumers will be able to identify themselves with the co-creator, information about the co-creator in these cases could have a negative effect. If consumers can identify themselves with the co-creator this has a positive effect.

Besides testing for main effects of involvement in co-creation and information about the co-creator, these factors are tested for an interaction effect. For brand innovativeness, word of mouth about the brand and purchase intention of the brand, this interaction is found. When involvement in co-creation is low, information about the co-creator has a positive effect. A potential explanation for this might be that involvement in co-creation is more important than information about the co-creator. Information about the co-creator compensates for the low involvement in co-creation. For high involvement in co-creation, there is no compensation effect of information about the co-creator.

Self-congruity with the co-creator is tested for a main effect on product and brand evaluations and moderating effects on the relationship between information about the co-creator and product and brand evaluations. The main effect of congruence between the self-image of consumers and the co-creator of a product on product and brand evaluations is found. Hypothesis 4a and 4b are confirmed

and this finding is in line with findings of Sirgy (1985), and Nam, Ekinci, and Whyatt (2011) that self-congruity between the product image and self-image has a positive effect on product and brand evaluations. Moreover, self-congruity with the co-creator moderates the effect of information about the co-creator on product and brand evaluations. Consumers who receive information about the co-creator and score high on self-congruity, have higher scores on product attitude, product innovativeness, product word of mouth, brand satisfaction, brand innovativeness, brand purchase intention and brand word of mouth compared to consumers in the co-creation group who did not receive information about the co-creator. Hypothesis 4c and 4d are confirmed for these constructs. Remarkably, further analysis revealed more favourable scores on product innovativeness, product trust, brand innovativeness, and word of mouth about the brand for participants who score high on self-congruity compared to the control group (no co-creation). This is an important result because this shows that co-creation can influence product and brand evaluations positively. A possible explanation lies in the processing fluency concept again. The stimulus material used in the control group consists of a picture only and is therefore easy to process. Processing the fact that a product is developed in co-creation might occur more effective when a picture of the co-creator is shown instead of reading solely text. In this case, when self-congruity between the co-creator and the self-image is high, participants might evaluate the product and brand better compared to the control group.

Variety seeking behaviour is measured for a main effect and moderating effect as well. Because variety seeking is the desire for a new and novel stimulus, i.e. the selection of a new product or brand (Van Trijp, Lahteenmaki & Tuorila, 1992), it was expected that high variety seekers would have more favourable attitudes and behavioural intentions towards a new product that is developed in co-creation. This cannot be concluded from the results in this study. Variety seeking behaviour does affect evaluations on brand level. However, when consumers have *lower* scores on variety seeking they have more favourable brand evaluations and a higher score on product trust. Hypothesis 5a and 5b are therefore not confirmed. An explanation for this might be that the advertised product is not innovative enough for variety seekers with an internal need for stimulation. High variety seekers might not be impressed by the fact that a product is developed in co-creation because the brand is still a traditional brand and the new product is not innovative. Variety seeking does moderate the effect of information about the co-creation on brand level. Information about the co-creator may lead to more stimulation for variety seekers. More favourable scores are observed on brand satisfaction, brand differentiation, and purchase intention of the brand when variety seeking consumers have information of the co-creator compared to variety seeking consumers without any information of the co-creator. When consumers score low on variety seeking, information about the

co-creator has no effect. Hypothesis 5c is not supported and hypothesis 5d is supported for brand satisfaction, brand differentiation, and brand purchase intention. Variety seeking behaviour does not moderate the effect of involvement in co-creation, which means that hypothesis 5e and 5f are not supported. Co-creation of the product used in this study is not stimulating enough for variety seekers and the level of involvement in co-creation does not change this.

Consistent with literature, consumers' attitudes towards the product and brand are predictors of consumer behavioural intentions. General attitude, satisfaction, quality, and innovativeness are predictors for purchase intention of the new product. Satisfaction and quality are significant predictors for word of mouth about the product and innovativeness is approximately significant to predict word of mouth about the product. For willingness to pay a price premium for the product, perceived quality and differentiation are significant, but small predictors. For purchase intention of the brand and word of mouth about the brand, the general attitude towards the brand and brand satisfaction are strong predictors. Finally, brand satisfaction and brand differentiation predict the willingness to pay a price premium for the brand.

5.2 Managerial implications

The internal advantages of using co-creation in NPD are highly accepted. This study sheds light on the external effects. Besides that co-creation can be used to improve internal processes and develop successful products that fit consumer needs, co-creation can be used in advertisement as well. However, communicating about the use of co-creation in advertisement is not beneficial in all cases. This study shows that different dimensions of co-creation lead to different evaluations of the product and brand. High involvement in co-creation leads to higher scores on product evaluations compared to low involvement in co-creation. High involvement in co-creation leads to higher scores on product attitude, product satisfaction, product quality, and product innovativeness. In addition, these favourable attitudes lead to significantly higher scores on purchase intention of the product. Furthermore, product satisfaction and product quality are significant predictors of word of mouth about the product. The advantages of these behavioural intentions are widely recognized in literature (Tsotsou, 2006; Harrison-Walker, 2001; Bansal & Voyer, 2000; Bone 1995). Furthermore, it is observed that high involvement in co-creation leads to more favourable scores compared to no co-creation and low involvement leads to lower scores compared to no co-creation. Although these findings are not significant in this study, it is recommended to managers to communicate about co-creation when involvement in co-creation is high. Additionally it is recommended not to communicate about co-creation in advertisement when the level of involvement in co-creation is low. An important aspect that managers should take into account is brand trust. High level of involvement in co-creation can decrease brand trust.

Information about the co-creator can have a positive effect on product and brand evaluations. However, this is only the case when self-congruity between the co-creator and the consumer self-image is high. It is recommended to use information about the co-creator in advertisement only when the co-creator(s) represents the image you want for your product or brand. It is important to know your target group and know what characteristics are important for a spokesperson because the level of self-congruity between the co-creator and the self-image of the target group can affect their attitudes towards the product and brand. Furthermore, information about the co-creator in advertisement can be interesting, because this attracts consumers who show high variety seeking behaviour. To keep consumers brand loyal, but address their variety seeking tendency, manufacturers should establish new alternatives within their brand portfolios (Helmig, Huber & Leefland, 2007). Information about the co-creator can stimulate high variety seekers. Variety seeking consumers are willing to try innovative new products. They can be opinion leaders or market mavens and can have a lot of influence on other consumers.

It is strongly recommended to managers to use co-creation for NPD because of the advantages that are already known. Based on this study, it is not recommended to communicate about the use of co-creation in all cases.

To summarize, in cases where involvement in co-creation is high, it is recommended to communicate this towards consumers. However, it is better not to communicate about low involvement in co-creation. Furthermore, it is recommended to communicate about the person involved in co-creation process when this person represents the image you want for your product and brand. This is beneficial because it influences consumers that score high on self-congruity and high variety seekers. Do not communicate about the person who co-created the product when this person does not represent the target group.

Because the effect of using communication about co-creation in advertisement might influence consumer behavioural intention that guide consumer behaviour (positive or negative), but depends on a variety of aspects, it is recommended to test how consumers react on the advertisement first.

5.3 Limitations and future research

This study has several limitations that warrant discussion. First, changing attitudes is a great challenge. Pickwick is a well-known brand in the Netherlands and brand awareness under the participants was 100 percent. Participants may have strong formed attitudes towards the brand so it is difficult to measure the impact of using co-creation on these strong formed attitudes. Future research on this topic might elucidate the effect of using co-creation in a more longitudinal study that measures attitudes at different time points: before the use of co-creation and subsequently after a few manipulation moments where respondents are aware of the use of co-creation.

Furthermore, it is important to test for the effect of co-creation on product and brand evaluations for a more unknown brand.

Secondly, the fit between the new product and the brand is not measured in this study. If consumers do not think that participation of consumers in product development is beneficial, and that the product does not differentiate from other products Pickwick introduces without co-creation, this might influence the way they evaluate the product.

Thirdly, only one product is used in this study. To find out if this study is also representative for other products, brands or other product categories, future research is necessary. Future research can i.e. focus on different price categories, low involvement products and high involvement products or products that depend more or less on expert knowledge.

The liking of the advertisement for the new product itself is not measured. This might influence the evaluation of the product. Besides that, this study does not represent an entire campaign since it only includes a simple advertisement. Future research should find out how communication about co-creation in for example TV-commercials is received.

Another limitation of this study is that participants were not asked whether they consider the person, who was involved in co-creation as a tea expert. It is measured whether the participants of this study could identify themselves with the co-creator, but not if they think the co-creator is a valuable asset for product development. More research needs to be done to cover this possible influence.

Future research could also focus on different aspects of co-creation that might influence consumer evaluations. In this study involvement in co-creation and information about the co-creator are selected as potential influential factors. Other factors could be the amount of consumers that were involved in co-creation. For example, one person can contribute new ideas to a company, however 50 consumers can contribute more. Does this affect consumer evaluations of the product? Furthermore, qualitative research on co-creation could shed light on the aspects of co-creation where consumers are positive or negative about.

Finally, the product used in this study, is already developed in co-creation. Consumers might think they had no chance to participate in this co-creation as well. Future research might find out what the effect is of awareness of co-creation on product and brand evaluations when asking for consumer input or participation in the co-creation process themselves.

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Appendix A – Questionnaire

Dear participant,

To finish my master Marketing Communication at Twente University, I would like you to participate in an investigation about product and brand experiences and consumer behaviour. You are about to fill in a questionnaire about the number 1 tea brand in the Netherlands: Pickwick.

When completing the questionnaire you will evaluate a new product of the brand Pickwick. Completing this questionnaire will take approximately 10-15 minutes. It is not possible to give a wrong answer because it concerns your personal opinion. Your answers will remain completely anonymous and will not be used for other purposes than this study.

Thank you for your participation,

Lotte Oldemaat



The first part of the questionnaire is about general information and your tea consumption.

What is your age?

What is your sex?

- ☐ Man
- ☐ Woman

What is your family situation?

- ☐ Single person household
- ☐ More person household no children <18
- ☐ More person household children <13
- ☐ More person household children 13-17

What is your highest education?

- ☐ Elementary school
- ☐ VMBO
- ☐ HAVO
- ☐ VWO
- ☐ MBO
- ☐ HBO
- ☐ WO

How much tea do you drink?

- ☐ A few cups a day
- ☐ One cup a day
- ☐ A few cups a week
- ☐ One cup a week
- ☐ I hardly or don't drink tea

Please indicate on the next scale to what extent you agree with the statement.

1 indicates: totally don't agree, **7** indicates: totally agree

| | | | | | | | |
|-------------------------------|---|---|---|---|---|---|---|
| Tea is important for me | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Tea has an extra value for me | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

Do you drink tea of the brand Pickwick?

- ☐ Yes, always Pickwick
- ☐ Yes, especially Pickwick
- ☐ Yes, but not more Pickwick than another brand
- ☐ Yes, but more tea of another brand
- ☐ Yes, but hardly Pickwick
- ☐ Never Pickwick
- ☐ I don't know the brand Pickwick

Which tea brand(s) do you prefer?

- ☐ Pickwick
- ☐ Lipton
- ☐ Private Label (i.e. Albert Heijn, C1000, Jumbo)
- ☐ Zonnatura
- ☐ Dilmah
- ☐ Celestial
- ☐ Tea from a specialist
- ☐ Other
- ☐ No preference

Which tea flavour(s) do you prefer?

- ☐ Black tea
- ☐ Fruit or other flavoured tea
- ☐ Green tea
- ☐ Herbal tea
- ☐ Rooibos tea
- ☐ No preference



In the second part of the questionnaire you will see an advertisement. This is an advertisement of a new product of the brand Pickwick with a verbal text about the development process of this product. Please look at the advertisement and read the text. <In scenario 5 no verbal text about the development process is included. This text is slightly different in that questionnaire>

<Advertisement scenario 1, 2, 3, 4, or 5 is shown>

Are you familiar with this product?

- ☐ Yes, I've tried it
- ☐ Yes, but I did not try it yet
- ☐ No

Please indicate on the next scales to what extent you agree with the statement about the new product. **1** indicates: totally don't agree, **7** indicates: totally agree

| | | | | | | | |
|--|---|---|---|---|---|---|---|
| I think this product is superior compared to competing products. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I think this product is likable | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I am not happy about the product | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I think this is a predictable product | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I think I am satisfied with this new product | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I would rather buy a different product | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| This product of Pickwick is save | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I think this product is useless | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I would buy the product on the next opportunity | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I think this product is excellent | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I think Pickwick Speculaas is original | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| This product is basically the same as competing products | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I think this is a good product | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| This product is highly innovative | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I think this product is of poor quality | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| This product is exactly what I need | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I think this product is appropriate | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| This product is different from competing products | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I think this product is unpleasant | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I trust this product | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

| | | | | | | | |
|--|---|---|---|---|---|---|---|
| This product is honest | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| This product was one of the first of its kind introduced into the market | 1 | 2 | 3 | 4 | 5 | 6 | 7 |



The next statements are still about the product Pickwick Speculaas. Please indicate on the next scales to what extent you agree with the statement about the new product. **1** indicates: totally don't agree, **7** indicates: totally agree

| | | | | | | | |
|--|---|---|---|---|---|---|---|
| I intend to purchase this product | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I will buy this product the next time I buy tea | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I intend to encourage friends and relatives to try this product | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I rather buy another product that offers a better price | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I intend to recommend the product to someone who seeks my advice | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I am willing to pay a higher price for this product than competing products for the benefits I currently receive from Pickwick | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| In intent to say positive things about the product to other people | 1 | 2 | 3 | 4 | 5 | 6 | 7 |



Part 3 is only present in the questionnaire for scenario 3 and 4 that measure self-congruity

<Look at the advertisement again>

Take a moment to think about this product and the woman who co-created it. Think about the kind of person this woman is: Imagine this person in your mind and describe this person using one or more personal adjectives such as stylish, classy masculine, sexy, old, young, athletic, or whatever personal adjectives you can use to describe her.

Please indicate your agreement or disagreement to the following statement:

1 indicates: totally don't agree, **7** indicates: totally agree

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| This description about the co-creator is consistent with how I see myself | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|



In the following section you will receive more statements. These statements are about your attitude towards the brand Pickwick, not towards the product.

<Logo Pickwick>

Please indicate your agreement or disagreement to the following statement:

1 indicates: totally don't agree, **7** indicates: totally agree

| | | | | | | | |
|--|---|---|---|---|---|---|---|
| I trust the brand Pickwick | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I rather but another tea brand | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I think Pickwick is a good brand | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I think the brand Pickwick is predictable | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I think Pickwick is useless | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Pickwick is different from competing brands | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I think Pickwick is superior compared to competing brands | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I think the brand Pickwick is unpleasant | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| The brand Pickwick is honest | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I am not happy about the brand Pickwick | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I think the brand Pickwick is excellent | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Pickwick brings products who are one of the first of its kind introduced into the market | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I think Pickwick is of poor quality | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| The brand Pickwick is highly innovative | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I am satisfied with the brand Pickwick | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| This brand is basically the same as competing brands. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I think the brand Pickwick is original | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| The brand Pickwick is safe | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I think the brand Pickwick is likable | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| The brand Pickwick is exactly what I need | 1 | 2 | 3 | 4 | 5 | 6 | 7 |



The next part is still about the brand Pickwick. Please indicate in the next scales to what extent you agree with the statement about the new product.

1 indicates: totally don't agree, **7** indicates: totally agree

| | | | | | | | |
|--|---|---|---|---|---|---|---|
| I will buy this brand the next time I buy tea | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I intend to encourage friends and relatives to try the brand Pickwick | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I rather buy another brand that offers a better price | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I intend to recommend this brand to someone who seeks my advice | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I intend to keep purchasing this brand | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I am willing to pay a higher price for this brand than competing brands for the benefits I currently receive from Pickwick | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| In intent to say positive things about the brand to other people | 1 | 2 | 3 | 4 | 5 | 6 | 7 |



This last part of the questionnaire is about your personal purchase behaviour. Please indicate on the next scales to what extent you agree with the statement about the new product. **1** indicates: totally don't agree, **7** indicates: totally agree

| | | | | | | | |
|--|---|---|---|---|---|---|---|
| Even though certain food products are available in a number of different flavours, I tend to buy the same flavour. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I would rather stick with a brand I usually buy than try something I am not very sure of. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I think of myself as a brand-loyal consumer. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| When I see a new brand on the shelf, I'm not afraid of giving it a try. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| When I go to a restaurant, I feel it is safer to order dishes I am familiar with. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| If I like a brand, I rarely switch from it just to try something different. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I am very cautious in trying new or different products. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I enjoy taking chances in buying unfamiliar brands just to get some variety in my purchases. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I rarely buy brands about which I am uncertain how they will perform. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I usually eat the same kinds of foods on a regular basis. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

This was the end of the questionnaire. Thank you very much for your participation.

Appendix B – Stimulus materials

Scenario 1 (Low involvement*No information)



NIEUW!

Probeer nu Delicious Spices Speculaas

Pickwick heeft dit product ontwikkeld in samenwerking met de consument. Een Pickwick fan is betrokken geweest tijdens de idee fase van deze nieuwe thee.

Als deelnemer in het co-creatie team mocht ze verschillende ideeën bedenken voor een nieuwe smaak. Een van de ideeën was speculaas thee en dit idee is uitgekozen om verder te ontwikkelen. Na de idee fase heeft Pickwick dit idee vertaald in een product door de bijbehorende smaak bij dit idee te ontwikkelen, de nieuwe variant een naam te geven en de verpakking te ontwerpen. Het resultaat is deze heerlijke thee met de smaak van echte speculaasjes.

Scenario 2 (High involvement*No information)



NIEUW!

Probeer nu Delicious Spices Speculaas

Pickwick heeft dit product ontwikkeld in samenwerking met de consument. Een Pickwick fan is betrokken geweest tijdens het gehele productie proces van deze nieuwe thee.

Als deelnemer in het co-creatie team mocht ze verschillende ideeën bedenken voor een nieuwe smaak. Een van de ideeën was speculaas thee. Samen met Pickwick heeft ze ervoor gekozen dit idee verder te ontwikkelen. Na de idee fase was ze betrokken bij het samenstellen van de thee, het proeven van verschillende smaak mogelijkheden, de keuze voor de uiteindelijke smaak, het bedenken van de naam en het ontwerpen van de verpakking. Het resultaat is deze heerlijke thee met de smaak van echte speculaasjes.

Scenario 3 (Low involvement*Information)



NIEUW!

Probeer nu Delicious Spices Speculaas

Pickwick heeft dit product ontwikkeld in samenwerking met Pickwick fan Sanne. Sanne (34 jaar oud, directie secretaris en moeder van twee kinderen) is betrokken geweest tijdens de idee fase van deze nieuwe thee.

Als deelnemster in het co-creatie team mocht ze verschillende ideeën bedenken voor een nieuwe smaak. Een van de ideeën was speculaas thee en dit idee is uitgekozen om verder te ontwikkelen. Na de idee fase heeft Pickwick dit idee vertaald in een product door de bijbehorende smaak bij dit idee te ontwikkelen, de nieuwe variant een naam te geven en de verpakking te ontwerpen. Het resultaat is deze heerlijke thee met de smaak van echte speculaasjes.

Scenario 4 (High involvement*Information)



NIEUW!

Probeer nu Delicious Spices Speculaas

Pickwick heeft dit product ontwikkeld in samenwerking met Pickwick fan Sanne. Sanne (34 jaar oud, directie secretaris en moeder van twee kinderen) is betrokken geweest tijdens het gehele productie proces van deze nieuwe thee.

Als deelnemster in het co-creatie team mocht ze verschillende ideeën bedenken voor een nieuwe smaak. Een van de ideeën was speculaas thee. Samen met Pickwick heeft ze ervoor gekozen dit idee verder te ontwikkelen. Na de idee fase was ze betrokken bij het samenstellen van de thee, het proeven van verschillende smaak mogelijkheden, de keuze voor de uiteindelijke smaak, het bedenken van de naam en het ontwerpen van de verpakking. Het resultaat is deze heerlijke thee met de smaak van echte speculaasjes.

Scenario 5 (Control Group)



Appendix C - Results

Table 15. Main effects of level of involvement in co-creation

| Construct | Low involvement n=146 M (SD) | High involvement n=148 M (SD) | F-Value | Significance test (p-value) |
|----------------------------|------------------------------------|-------------------------------------|---------|--------------------------------|
| Product attitude | 4.10 (1.38) | 4.68 (1.37) | 13.962 | .000 |
| Product satisfaction | 3.02 (1.36) | 3.56 (1.24) | 13.889 | .000 |
| Product quality | 4.42 (1.15) | 4.72 (1.13) | 5.717 | .017 |
| Product innovativeness | 4.38 (1.10) | 4.78 (0.96) | 10.312 | .001 |
| Product differentiation | 4.51 (1.28) | 4.75 (1.12) | 3.500 | .062 |
| Product trust | 5.29 (1.12) | 5.45 (0.95) | 2.027 | .156 |
| Product purchase intention | 2.58 (1.81) | 3.11 (1.85) | 6.723 | .010 |
| Product word of mouth | 2.73 (1.62) | 3.04 (1.44) | 3.741 | .054 |
| Product price premium | 4.62 (1.86) | 4.66 (1.63) | .037 | .849 |
| Brand attitude | 5.97 (0.89) | 5.82 (0.92) | 1.580 | .210 |
| Brand satisfaction | 5.24 (1.24) | 5.02 (1.25) | 1.664 | .198 |
| Brand quality | 5.68 (1.03) | 5.57 (1.06) | .592 | .442 |
| Brand innovativeness | 5.47 (0.82) | 5.41 (0.78) | .274 | .601 |
| Brand differentiation | 4.62 (1.42) | 4.60 (1.22) | .003 | .958 |
| Brand trust | 5.78 (0.85) | 5.50 (1.04) | 5.227 | .023 |
| Brand purchase intention | 5.03 (1.65) | 4.71 (1.77) | 1.877 | .172 |
| Brand word of mouth | 4.56 (1.64) | 4.33 (1.63) | .894 | .345 |
| Brand price premium | 4.61 (1.57) | 4.40 (1.59) | 1.097 | .296 |

Table 16. Main effects of information about the co-creator

| Construct | No information n=134 M (SD) | Information n=160 M (SD) | F –value | Significance test (p-value) |
|----------------------------|-----------------------------------|--------------------------------|----------|--------------------------------|
| Product attitude | 4.39 (1.40) | 4.40 (1.39) | .049 | .824 |
| Product satisfaction | 3.38 (1.38) | 3.22 (1.28) | .822 | .365 |
| Product quality | 4.59 (1.17) | 4.56 (1.14) | .014 | .905 |
| Product innovativeness | 4.56 (1.09) | 4.58 (1.02) | .060 | .807 |
| Product differentiation | 4.54 (1.16) | 4.71 (1.24) | 1.645 | .201 |
| Product trust | 5.37 (1.09) | 5.38 (1.00) | .029 | .864 |
| Product purchase intention | 2.91 (1.96) | 2.79 (1.75) | .190 | .664 |
| Product word of mouth | 2.81 (1.52) | 2.95 (1.56) | .674 | .412 |
| Product price premium | 4.51 (1.74) | 4.74 (1.74) | 1.262 | .262 |
| Brand attitude | 5.81 (1.00) | 5.97 (0.82) | 2.262 | .134 |
| Brand satisfaction | 5.03 (1.29) | 5.22 (1.21) | 1.642 | .201 |
| Brand quality | 5.54 (1.10) | 5.70 (1.00) | 1.506 | .221 |
| Brand innovativeness | 5.41 (0.83) | 5.46 (0.78) | .279 | .598 |
| Brand differentiation | 4.58 (1.35) | 4.63 (1.30) | .125 | .724 |
| Brand trust | 5.37 (1.09) | 5.38 (1.00) | .150 | .699 |
| Brand purchase intention | 4.74 (1.74) | 4.78 (1.70) | 1.347 | .247 |
| Brand word of mouth | 4.28 (1.60) | 4.58 (1.57) | 2.514 | .114 |
| Brand price premium | 4.43 (1.60) | 4.57 (1.57) | .547 | .460 |