

# CO-CREATING YOUR OWN LUCK

## A Quantitative Study of Non-participating Consumers' Responses to Communicated Consumer Co-creation in New Product Development

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### ABSTRACT

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Consumers are deemed to be the most important external source used in innovation processes. Recently, the interest in consumer involvement in new product development has increased, both in practice and within research. Co-creation research has advanced, mainly within the interconnection of Innovation Management literature, focusing on implementation of co-creation processes, and Marketing Management literature, focusing on the communication of co-creation efforts. However, a threefold knowledge gap is identified: (1) research has not yet concluded which open innovation strategies are preferred, (2) limited research has investigated non-participating consumers' perceptions of consumer involvement, and (3) there has been a lack of understanding how signaling factors affect the response to co-creation communication. The purpose is consequently to advance the knowledge of the non-participating consumers' responses to communicated co-creation initiatives within new product development. This was achieved by applying a deductive research approach, testing theory-based hypotheses through a self-completion, online survey-based experiment. Three different co-creation scenarios; Open Competition, Open Online Community and Selective Online Community as well as a Closed Innovation scenario were manipulated to measure the effect of communicated co-creation on Customer-Based Brand Equity. Additionally, signals from the co-creating consumer, the co-creation process and the co-created product were measured to add explanatory value to this relationship. This thesis concludes that consumer co-creation cannot just be deemed as good. On the contrary, the choice of consumer co-creation strategy appears more intricate. The study finds few significant differences in Customer-Based Brand Equity between the various co-creation scenarios and the Closed Innovation scenario. However, the study confirms that perceptions of similarity to, and expertise of co-creation participants, the empowerment their involvement signals, and the complexity of the product itself, all affect the relationship between communication of different types of co-creation efforts and Customer-Based Brand Equity.

*Key words:* consumer co-creation, new product development, customer-based brand equity, non-participating consumer responses, virtual customer integration

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# Definitions

Brand Attitude	A concept referring to a consumer's overall opinion of a brand.
Brand Community	<i>"A specialized community based on social relations among consumers of a brand and provides social structure to consumer-consumer and consumer-firm relationships."</i> (Kao et al., 2016, p. 2).
Brand Loyalty	A concept referring to a consumer's continuous attitude and behavior toward a brand.
Brand Purchase Intention	A concept referring to a consumer's likeliness of buying a brand's products or services in the future.
Closed Innovation	An internal innovation process, not actively involving consumers in e.g. the product development, besides methods such as market research.
Co-creation strategy	The process of using consumer co-creation. In this thesis in terms of; Open Competition, Open Online Community and Selective Online Community. Also referred to as; Co-creation process, Co-creation effort, Co-creation initiative, Co-creation method.
Consumer co-creation	<i>"A collaborative new product or service development activity in which consumers actively contribute and/or select the content of a new product or service offering, and where all active parties create and extract value from the collaboration."</i> (Liljedal, 2016b, p.5). Also referred to as; Customer co-creation, consumer involvement.
Customer-Based Brand Equity	A measure of <i>"the incremental utility or value added to a product by its brand name"</i> (Yoo, Donthu & Lee, 2000, p.195). Consisting of <i>Brand Attitudes</i> , <i>Brand Purchase Intention</i> and <i>Brand Loyalty</i> (Rosengren & Dahlén, 2015). Also referred to as; CBBE.
Ideator	Initiator of product idea and/or implementation. In this thesis either an internal product developer or a participating consumer.
Internal product developer	A person hired by a firm, working with product development. Also referred to as; Professional product developers, professionals.
New Product Development	A process in which new products are developed. Also referred to as; NPD, product development.
Non-participating consumers	A consumer that is not part of a co-creation effort. Also referred to as; Non-participants.

Online Brand Community	A brand community in the form of a group on social media (e.g., Facebook).
Open Online Community	An online community where anyone can become a member. Also referred to as; Online Community.
Open Competition	A competition on the website of a brand where any consumer can suggest product ideas, often incentivized by prizes (e.g. financial or material).
Open Innovation	<i>"A paradigm that assumes that firms can and should use external ideas as well as internal ideas, and internal and external paths to market, as firms look to advance their technology."</i> (Chesbrough, 2006, p. XXIV).
Participating consumers	A consumer that is part of a co-creation effort. Also referred to as; Participants, co-creating consumers
Perceived Complexity	<i>"The extent to which consumers perceive a product to be difficult to design."</i> (Schreier, Fuchs & Dahl, 2012, p.22). Also referred to as; Complexity, product complexity.
Perceived Empowerment	<i>"Consumers' perceived influence on product design and decision making."</i> (Füller et al., 2009, p. 78). Also referred to as; Empowerment, consumer empowerment.
Perceived Expertise	The extent to which an ideator is perceived to be a valid source of knowledge about the product design process. Also referred to as; Expertise.
Perceived Similarity	The extent to which a consumer perceives another person to be similar to them. Also referred to as; Similarity.
Selective Online Community	An online community where the members are selected as a result of their engagement with a brand and its products. Also referred to as; Selective Community.

# 1. Introduction

*This initial chapter aims to provide the background of the chosen area of research; consumer responses to consumer co-creation. Further, based on the subsequent theoretical and empirical problematization within the research field, the purpose and research questions of the study will be presented, as well as the expected contributions and delimitations. The chapter is concluded with an overview of the chosen structure for the thesis.*

## 1.1. Background

The idea behind innovation is not new – for centuries, humans have been fascinated by discovering new ways of doing things, with the ambition to improve what is around them (Fagerberg, 2013). This has, not only an impact on product development, but has also many economic implications. An increase in efficiency and effectiveness in various sectors, as a result of innovation, has been a driving force in long and short-term economic development (Ray, 1980). For organizations, innovation is a crucial part in the strive toward competitiveness as well as a cornerstone in business development (Roper, 1997; Kerr, 2016). There has also been a proven relationship between the ability to be innovative and the probability of business survival (Cefis & Marsili, 2006; Ortiz-Villajos & Sotoca, 2018). Thus, it is clear that there is a need to innovate to prosper as an organization.

The most important external source of knowledge used in innovation processes is deemed to be the customers (Prahalad & Ramaswamy, 2004; Weigel & Goffin, 2015). In the traditional research view on consumers in innovation and new product development (NPD), firms deliberately control when to take in consumer perspectives. For example, some companies involve consumers through concept testing, and some rather see them as completely passive (Piller, Ihl & Vossen, 2010; Witell et al., 2011). Recently, the role of consumers in product development has shifted to a more consumer-centered view on innovation (Franke, Schreier & Kaiser, 2010; Dahl, Fuchs & Schreier, 2014). Companies adopting this consumer-centric mindset have, compared to companies of a more traditional company-focused mindset, a higher ability to develop what the consumers in fact want and need (Von Hippel, 1986; 2005; Galati, Bigliardi & Petroni, 2016). Parallel to the increase in consumer power, internet and digitization have had a large impact on marketing communications, as well as consumer-to-consumer and consumer-to-firm interactions (Hutter et al., 2011; Martini, Massa & Testa, 2014; Jing, Sothearea & Virak, 2017). This enables consumers to be even more integrated into new product development processes (Chesbrough, 2006).

One way that organizations can involve customers is through co-creation. For the purpose of this thesis, consumer co-creation is defined as “*a collaborative new product or service development activity in which consumers actively contribute and/or select the content of a new product or service*”



*offering, and where all active parties create and extract value from the collaboration.”* (Liljedal, 2016b, p.5). Several parallel advancements have contributed to the evolution of the co-creation concept. The simultaneous development of the more open view on innovation, the adoption of digital, internet-connected solutions and the focus on experiences and services all contributed to the emergence of this area. The advancements together enable consumers to engage with and directly impact brands (Chesbrough, 2006). Recently, there has been an increased interest in the field of co-creation, both in practice and within research (e.g., Füller, 2010; Gemser & Perks, 2015; Kao et al., 2016). A central idea of consumer co-creation is the involvement of consumers as collaborators in NPD. This encompasses the interaction between internal producers and external consumers as they learn and share information to create value together (Prahalad & Ramaswamy, 2004). Hence, the co-creating consumers can be seen as co-producers of products and services (Hoyer et al., 2010). There are many successful examples of companies engaging in this type of consumer co-creation. Muji, the Japanese consumer goods producer, has successfully created products together with their customers for many years by e.g. letting consumers ideate and vote for new products (Nishikawa, Schreier & Ogawa, 2013). Moreover, companies like Apache, Threadless, and McDonald's have similarly all used co-creation to leverage on the knowledge and input of their customer base, however not always successfully (Dahl, Fuchs & Schreier, 2014; Liljedal, 2016b). This implies that companies have to be cautious in order to succeed with a co-creation effort.

The growth of consumer involvement not only has an effect on the NPD per se, but also on the brand perspective. Brand managers are no longer the only ones controlling their brands, as consumers' power to shape brands increases steadily (Christodoulides, Jevons & Bonhomme, 2012). Companies that involve consumers through co-creation can generate more positive attitudes and intentions toward the brand (e.g., Sawhney, Verona & Prandelli, 2005; Füller, 2010). It seems obvious that consumers involved in a company's new product development process through co-creation are affected by their own involvement. For example, research has suggested that it leads to stronger customer relationships, better attitudes as well as higher levels of loyalty and trust toward the co-creating company (e.g., Sawhney, Verona & Prandelli, 2005; Füller, 2010; Brodie et al., 2013). However, not many studies have investigated the external, so-called non-participating, consumers' perception of a co-creating brand. Non-participating consumers are believed to better identify with a firm engaged in customer involvement, which can influence their preferences toward the firm (Dahl, Fuchs & Schreier, 2014).

To conclude, innovation management and new product development is an interesting and relevant area to investigate as the ability to innovate is crucial for business success. Customers have been increasingly involved in new product development, both in practice and within research. One growing type of consumer involvement is co-creation, where firms and consumers generate and execute product and service ideas together. The use of co-creation efforts seems to influence consumers and

their perceptions of the brand and its products. However, as Brexendorf, Bayus & Keller (2015) convey there is a need for more research on the interrelation between innovation efforts and its impact on brands. But so far, the external point of view on co-creation, namely the perceptions of the consumers not involved in the co-creation effort, has not been extensively studied.

## 1.2. Purpose and Expected Contributions

The purpose of this thesis is to advance the knowledge of the non-participating consumers' responses to communicated co-creation initiatives within new product development. The study strives to investigate how the non-participating consumers' perceptions can affect Customer-Based Brand Equity. More specifically, the thesis takes into consideration Perceived Expertise, Perceived Complexity, Perceived Similarity and Perceived Empowerment.

The thesis is expected to make an addition to two fields of academic research by combining the research on marketing communications and consumer behavior with the research on innovation management and new product development. In order to further contribute to these fields of research, the thesis adds an aspect of comparison between the communication of various types of consumer co-creation. Moreover, it investigates the non-participating consumers' perceptions of the brand as a result of the new product development strategy. By contributing to the research on consumer responses to communicated consumer co-creation, the thesis further expands the explanatory research on co-creation and consumer reactions. The investigation of signaling cues of the co-creation communication, wishes to lead to a more advanced understanding of how participant and product perceptions affect the brand. Based on the background and purpose of the thesis, the research questions are formulated as follows:

- 1. How are non-participating consumers' perceptions of a brand affected by the communication of different types of co-creation efforts?*
- 2. How do perceptions of the participating consumers and the co-created product affect this relationship?*

Additionally, based on these research questions, practical contributions are expected to be made. As co-creation is receiving more attention, the need for research within the area also grows. Since co-creation efforts are characterized by a reorganization of the traditional new product development processes, optimizing this process is highly relevant (Piller, Ihl & Vossen, 2010; Heidenreich et al., 2015). However, Perks & Roberts (2013) emphasize the lack of empirically grounded frameworks. The thesis therefore aims to contribute further concrete insights and practical guidelines for different co-creation efforts.

### 1.3. Case Company

In order to examine the research questions in a practical context, an existing company was chosen as the study unit. The thesis and the survey are, therefore, adapted and inspired by the case of Kafferosteriet Koppar (referred to as Koppar onwards). Koppar is a small entrepreneurial coffee-roasting establishment located in the south-east of Stockholm, Sweden. They produce freshly roasted coffee exclusively sold by their online store and shipped directly to their customers. Their coffee is ecological and classified as Specialty Coffee, a quality assurance certification.

Koppar has several types of roasts available, and the versions are regularly modified, or new roasts are added. The coffee No6. Mustig was in fact developed as per request from a loyal customer, which sparked an interest about the concept of co-creation within the company. Koppar has a group of very loyal customers, so called ambassadors, that they have a regular conversation with. These customers could be considered to be part of a possible co-creation process. However, they have not yet implemented the concept into their business. Koppar represents a small company in need of further guidance regarding co-creation efforts, thus, an indication of the need for more research within this area.

### 1.4. Delimitations

Due to resource and time restrictions of the study, certain delimitations have been made in order to explore the research questions outlined above in a feasible manner. First of all, as a more detailed investigation of non-participants' views on different types of co-creation initiatives has not been extensively studied (Liljedal, 2016b), this is the perspective taken throughout the thesis.

However, delimitations are made regarding which types of co-creation initiatives to focus on. The chosen types of co-creation initiatives are an Open Competition, an Open Online Community and a Selective Online Community. The Open Competition is described to the respondents as a competition launched by the producing company Koppar after consumers started requesting new coffee. On a web site, anyone could suggest what Koppar should produce, and anyone could thereafter vote for what option should win, and hence, be produced. In the Open Online Community, the product was illustrated as being developed by consumers discussing and ideating in a group on Facebook, open for anyone to join. The Selective Online Community was depicted as a group on Facebook, where the members developed the product idea by discussing and ideating together. This group, described as Koppar's *ambassadors*, were selected based on their engagement with the company and its products.

These three types of co-creation initiatives are all virtual co-creation media that primarily focus on the ideation stage of the process, but also the selection stage to some extent. Furthermore, as the research

questions aim to investigate the non-participants' perceptions, less emphasis is put on the participants' perspective. In terms of signaling perceptions, the study is delimited to examine Perceived Complexity, Perceived Expertise, Perceived Similarity and Perceived Empowerment. Complexity is connected to the co-created product, while the other three are connected to perceptions of the co-creating consumer.

Moreover, the thesis only considers the Swedish market and through a collaboration with the Swedish coffee roastery Koppar, the thesis studies the Fast-Moving Consumer Goods industry, more specifically the coffee industry. Further, the thesis looks at the area of unknown brands, as it investigates the co-creation communication effects on Koppar, a small entrepreneurial firm fairly unknown on the Swedish market.

## 1.5. Research Outline

Based on the background, purpose, and delimitations of the thesis, a quantitative approach is applied. Founded on a deductive research strategy, hypotheses are developed based on a review of previous theory. Using a questionnaire-based study focused on non-participating consumers, the relationship between communicating different types of co-creation efforts and the Customer-Based Brand Equity is explored. Further, perceptions of similarity, empowerment, expertise and product complexity are investigated in order to explain this relationship. The results of the hypotheses testing are subsequently presented and discussed. Based on this, conclusions of the conducted study are drawn. Finally, contributions to theory and practice are presented as well as limitations of the study and suggestions for future research projects. The thesis is thus divided into seven parts, as follows: 1. Introduction, 2. Theory, 3. Results & Analysis, 5. Discussion, 6. Conclusions, and 7. Contributions & Outlook.

## 2. Theory

*This chapter provides the theoretical approach that is the foundation for the analysis and discussion of the study. The chapter is divided into two major parts; (1) Literature review, where background and existing research on the co-creation is presented, in order to identify relevant knowledge gaps for the thesis. (2) Theoretical framework and hypotheses formulation, where prior research is presented as a foundation of the theoretical framework, with the aim to drive the empirical research forward.*

### 2.1. Literature Review

Co-creation literature has in recent years mainly advanced within the interconnection of two research areas: Innovation Management and Marketing Management (Roberts & Darler, 2017). Within Innovation Management research on co-creation the processes and components of co-creation in NPD have been investigated. Within Marketing Management research, the non-participant perspective has presented a more external point of view of the co-creating company and the co-creating consumer. However, this perspective has not been extensively researched yet (Liljedal, 2016b). Accordingly, as demonstrated in Figure 1, the literature review is divided into these two main streams of literature with the mutual focus of co-creation.

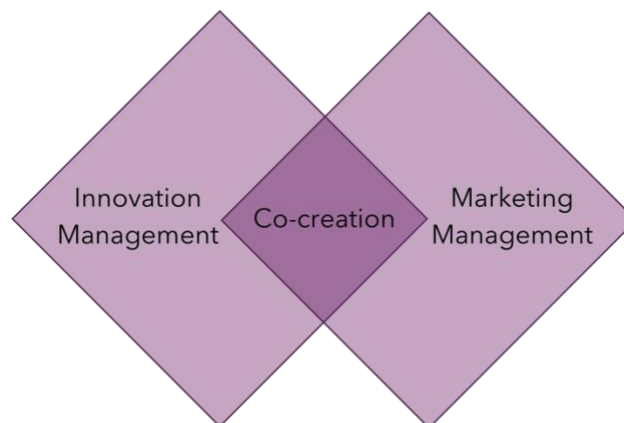


Figure 1: Illustration of research areas

#### 2.1.1. Innovation Management and Co-creation

##### 2.1.1.1. Open Innovation

The foundation of co-creation lies in the idea of Open Innovation (Piller, Ihl & Vossen, 2010). This concept was first defined by Chesbrough (2006, p. XXIV) as “a paradigm that assumes that firms can and should use external ideas as well as internal ideas, and internal and external paths to market, as firms look to advance their technology.” Open Innovation is hence a way for organizations to gather knowledge and expertise from e.g. the academic world, other companies, industry experts or consumers. Chesbrough (2006) presents four driving forces for the emergence of Open Innovation: (1)

technological development enable new ways of collaboration, (2) globalization that allows a wider connection between organizations and individuals, (3) economic and social changes in working patterns, and (4) the way market institutions adapt to these other factors in terms of, for example, intellectual property rights and technology standards. All these developments have led to the traditional do-it-yourself view on innovation becoming increasingly antiquated (Gassmann & Enkel, 2004). Thanks to the technological development and the internet, it is feasible for even the smallest of companies to use open innovation components in their product development (Füller et al., 2009; van de Vrande et al., 2009; Martini, Massa & Testa, 2014).

In both practice and theory, however, there are different views on which open innovation strategy is the most successful one. Moreover, scholars do not agree on what process or strategy is most efficient or beneficial for a brand (Dahl, Fuchs & Schreier, 2014; Felin & Zenger, 2014). There is no explicit definition encompassing what Open Innovation is (Huizingh, 2011). Gassmann & Enkel (2004) present three main processes within the concept of Open Innovation: Outside-in, Inside-out and Coupled. Research within Open Innovation is mainly based on the first two processes, and studies how large multinational companies' use them (Gassmann & Enkel, 2004; Busarovs, 2013). Hence, there is an interest in further investigation of the coupled open innovation processes, especially within smaller and more entrepreneurial organizations.

#### 2.1.1.2. Co-creation in New Product Development

The emergence of the concept co-creation signifies a shift from the firm as creating and defining value alone, to creating value collaboratively and interactively together with other parties (Ind & Coates, 2013). Co-creation is considered a coupled open innovation, as the company and other external parties innovate together in a collaborative process (Gassmann & Enkel, 2004).

Piller, Ihl & Vossen (2010, p.4) define customer co-creation as *“strategies of open innovation with customers.”* Moreover, it has been defined as *a process whereby consumers and producers interact, learn and share information to create value together* (Prahalad & Ramaswamy, 2000). For the purpose of this thesis, the chosen formulation of consumer co-creation is the definition Liljedal (2016b, p.5) proposes, namely:

*“Consumer co-creation is a collaborative new product or service development activity in which consumers actively contribute and/or select the content of a new product or service offering, and where all active parties create and extract value from the collaboration.”*

Per this definition, co-creation is a method of creating new, innovative products and services in collaboration with consumers. Previous research shows that firms focusing on consumer involvement are more likely to generate new products with a closer fit to customer needs, and hence can gain a competitive advantage (e.g., Lilien et al., 2002; Von Hippel, 2005; Nishikawa, Schreier & Ogawa,

2013). However, the use of co-creation does not only have an effect on the actual product development process, but also on the perception of the products created and of the brand at large (Fuchs & Schreier, 2011; van Dijk, Antonides & Schillewaert, 2014).

Liljedal (2016b) presents the ‘who’, ‘how’ and ‘what’ of consumer co-creation as a framework, synthesizing co-creation research (see Figure 2). There are many factors to deliberate when implementing and communicating co-creation initiatives (Massa & Testa, 2017), which are encompassed by these three aspects.

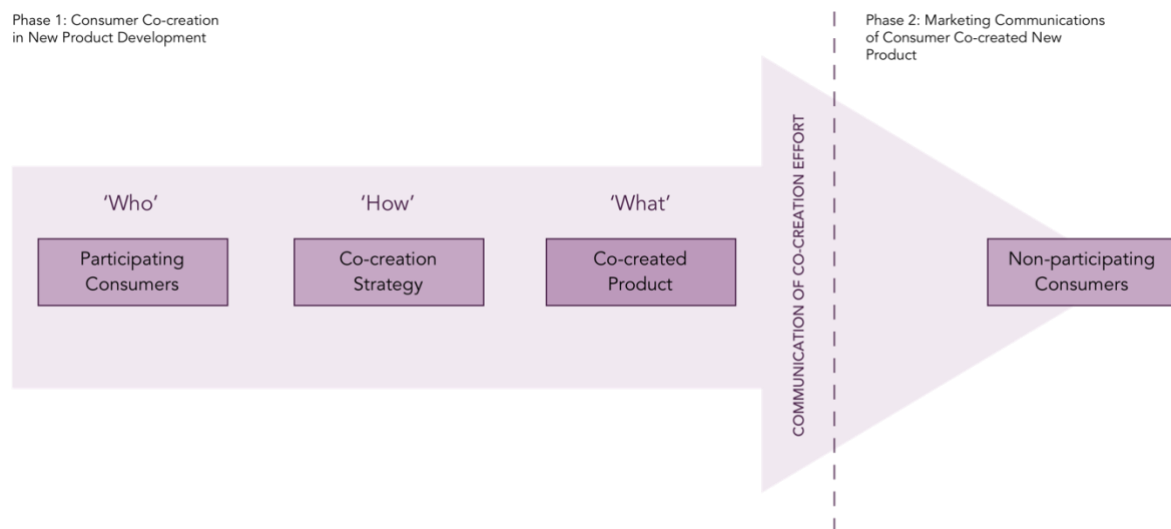


Figure 2: Communicated Consumer Co-creation Framework, adapted from Liljedal (2016b, p. 19)

#### 2.1.1.2.1. The ‘Who’ of Co-creation: The Participating Consumer

Broadly speaking there are two main groups of consumers affected by the implementation of co-creation; participating consumers and non-participating consumers (Fuchs & Schreier, 2011). Co-creation can be studied from the perspective of the consumers taking part in the process, as well as the external consumers that the co-creation communication is directed at.

There have been many studies examining parties involved in NPD, such as consumers participating in a co-creation initiative (e.g., Sawhney, Verona & Prandelli, 2005; Füller, 2010; Piller, Ihl & Vossen, 2010). Fuchs, Prandelli & Schreier (2010) concluded that participating consumers obtain a feeling of empowerment as a result of being able to influence product development. Consumers that are part of the creation of products are more likely to perceive the products as more attractive than comparable products (Norton, Mochon & Ariely, 2012). Moreover, they are more likely to identify with, and have an emotional association to, the co-created product and hence both be more likely to purchase it, and evaluate it higher (Atakan, Bagozzi & Yoon, 2014). However, occasionally consumers overestimate



the ideas they have been part in developing (Huang, Vir Singh & Srinivasan, 2014). These products might, therefore, result in failure in the marketplace (Gebauer, Füller & Pezzei, 2013). This implies that the involved consumers and their perceptions of the co-created product might not be the only aspect to consider when it comes to predicting the potential for commercialization. In this perspective, the non-participating consumers' views are not included, which is essential in determining the potential market success (Liljedal, 2016b). The research on non-participating consumers' view on communication of co-created products, however, is relatively new (Liljedal, 2016b). There is, consequently, an interest in researching the concept further, as it seems to have an important effect on market dynamics.

The fact that companies choose to involve consumers, can itself, have a positive impact on non-participating consumers loyalty, attitudes and perceptions toward the brand (e.g., Sawhney, Verona & Prandelli, 2005; Füller, 2010). Moreover, also purchase intentions toward the firm's products are more likely to be positive (Fuchs & Schreier, 2011). Further, there is a strong connection between the who and the why of co-creation. For example, it is important for non-participants to understand why a participant, and the company, is co-creating (Liljedal, 2016b). If the motive is perceived as clear, and genuinely aimed to enhance products or services, it can create a sense of credibility (Hovland, Janis & Kelley, 1953).

#### 2.1.1.2.2. The 'How' of Co-creation: The Co-creation Strategies

With the rise of internet-enabled platforms, it has become easier to communicate with people, therefore, consumers can participate in co-creation initiatives in a variety of ways (Heidenreich et al., 2015). Piller, Ihl & Vossen (2010) present a typology of co-creation methods based on the phase in the innovation process (*front-end* or *back-end*), the degree of collaboration (*single customer* or *customer community*) and the degree of freedom (*creative open task* or *predefined narrow task*). For example, an *idea contest* represents co-creation in the front end, with a single consumer and a creative open task. *Communities of creation* also co-create in the front end and with a creative open task, however, a group of customers are involved in creating the idea. This implies that there is a slightly different focus within the co-creation methods, which makes it interesting to compare them.

Scholars have previously tested one co-creation effort against a closed innovation (e.g., Schreier, Fuchs & Dahl, 2012; Nishikawa, Schreier & Ogawa, 2013; Liu & Fang, 2017). In past research, however, few studies have focused on comparing different types of consumer co-creation in the same study. Instead they, for example, consider the extremes of the co-creation scales: completely open and completely closed (Schreier, Fuchs & Dahl, 2012). Hence, a clear gap of knowledge exists within the research area. By studying different processes of co-creation's relation to each other, a more nuanced and holistic picture of the dynamics can be painted. This helps in gaining a more advanced understanding of co-creation strategy efficiency. As presented, the thesis will study three different



open co-creation strategies; Open Competition, Open Online Community and Selective Online Community. To gain an understanding of these different types of consumer co-creation efforts, prior research connected to them will be presented in the next section.

### *Co-creation Competitions*

Co-creation competitions can be defined as an *IT-based competition that a firm organizes to interact with and get suggestions from the general public, making use of ideas and knowledge not present internally* (Walcher, 2007; Bullinger & Möslin, 2010). The use of online competitions as a strategy of receiving ideas on new and innovative products or services from consumers has become increasingly popular, both in practice and within research (Adamczyk, Bullinger & Möslin, 2012; Massa & Testa, 2017). There are many examples of successful innovation competitions, for example by brands like Volkswagen, Swarovski and Lufthansa (Adamczyk, Bullinger & Möslin, 2012; Gebauer, Füller & Pezzei, 2013). Yet, Liljedal (2016b) concluded that the winners of the competition, are essentially the only ones with enhanced brand attitudes. If there is only one winner per competition, it is hence doubtful whether this can be seen as an efficient marketing method.

The use of innovation contests in the food and beverage sector has not been researched in a large extent before (Massa & Testa, 2017). Additionally, since food and beverage companies such as Coca-Cola, Danone and Pepsi frequently use innovation competitions, a further investigation is interesting (Massa & Testa, 2017). Furthermore, studies comparing the innovation contest to other types of consumer co-creation strategies from an external perspective have not been found, which makes this interesting to explore.

### *Co-creation in Online Brand Communities*

Social interactions within the online space have contributed to the creation of virtual communities where consumers can share and discuss their interest in brands or products (Muniz & O'guinn, 2001; Andersen, 2005). Due to the development of online communities, consumers from different geographical locations can gather and discuss (Gummerus et al., 2012). Social media are proven to be effective channels of communication and engagement, as well as of co-creation (Sawhney, Verona & Prandelli, 2005; Gebauer, Füller & Pezzei, 2013; Jing, Sotheara & Virak, 2017). As a result, the use of online communities in new product development has grown (Ellison, Steinfield & Lampe, 2011; Marchi, Giachetti & De Gennaro, 2011).

Kao et al. (2016) found that co-creation on social platforms can create more meaningful connections between the firm and the consumers due to high interactivity and social linkage. These connections affect the firm by adding value to the brands (Laroche et al., 2012), contributing to the business's innovation processes (Gebauer, Füller & Pezzei, 2013) and creating a stronger consumer-firm

connection (Algesheimer, Dholakia & Herrmann, 2005). This area has, without a doubt, become very popular both in practice and within research. Yet, as mentioned, not many scholars have studied the usage of online communities within co-creation from an external, non-participant perspective.

Many online brand communities are Open Communities. In this thesis, this is defined as a *community on an online platform, open for anyone to join, and that anyone can use to interact with the firm or other consumers*. There are, however, also communities that consist of a limited group of particularly loyal and/or passionate consumers. This type of brand communities is defined as Selective Communities in this thesis. It is expected that the perception of these two types of online communities will be somehow different. For example, a community that is open for anyone to join is expected to be perceived as more accessible for the non-participants (Dahl, Fuchs & Schreier, 2014). However, the exclusiveness of a Selective Online Community is seen as appealing in accordance with Cialdini's (2017) rule of scarcity, meaning that things or opportunities that are less available are considered as more valuable.

Members of the Selective Community are, in the scenario, described as Koppar's *most engaged customers*, which implies that they have knowledge about the brand and their products. The term *domain-specific lead users* indicates that a group of consumers, that are especially passionate and involved in a certain brand or a certain type of product, often are equipped to ideate new products within this domain (Chou, Yang & Jhan, 2015). As an illustration, Franke & Shah (2003) presented that many consumers enthusiastically interested in a certain niche sport, will themselves create new, or optimize existing, products to suit their needs.

Media Richness Theory refers to how different media of communication can transmit different types of information, based on a variety of language, personalization, capacity of instant feedback as well as multiple cues and senses involved (Lengel & Daft, 1988). A medium that is richer, indicating it can transmit various types of information to a larger extent, can aid social perceptions as well as the ability to perceive the potential deceit of others (Kahai & Cooper, 2003). Applying this to online communities, it has been found that Facebook is richer than e.g. email or written text. This is because Facebook is able to convey many cues about the communicator, enable immediate feedback and convey the message accompanied by multimedia tools such as images or emoticons (Yoo, Donthu & Lee, 2000; Sheer, 2011). With regard to richness, Facebook has been considered as an optimal method of collaboration, education and diffusion of information (Ahmed, 2012). Social media normally provides more information about the individual, e.g. profile descriptions, compared to what is revealed on a company website. Information increases the ability to identify with the communicating parties (Thompson & Malaviya, 2013).

#### 2.1.1.2.3. The 'What' of Co-creation: The Co-created Product

The 'what' of co-creation has been demonstrated to have less effect on the perceptions of non-participating consumers, compared to the 'who' and how' (Liljedal, 2016b). The co-created products or services are, however, connected to the co-creating parties. For example, product complexity is highly connected to the abilities and perceived competence of the ideators (Fuchs et al., 2013). The perceptions of the products or services co-created, seem to be more of a signaling vehicle, which, for example, relates a company's ability to the quality of the product (Brown & Dacin, 1997). However, due to the delimitations of the study, only studying one product, this aspect of co-creation will not be further considered, with the exception of the signaling effect from Perceived Complexity.

#### 2.1.1.3. The Intricacy of Co-creation

There is no universal model for conducting co-creation strategies (Dahl, Fuchs & Schreier, 2014; Felin & Zenger, 2014). Thus, it is difficult for companies to know what type of co-creation initiative would be the most successful one to use. Additionally, there is a duality in the use of co-creation initiatives. There are not only positive aspects of using co-creation, but also negative aspects, occasionally present simultaneously (Dahlander & Gann, 2010). This causes a risk if the co-creation strategy is not managed well. For instance, depending on the reference group and its characteristics, communicating that a product is co-created induce differing perceptions of the co-creating consumers, as well as of the brand (Liljedal, 2016b). Moreover, Gebauer, Füller & Pezzeri (2013) show how users can develop an actual intent to harm the brand. For example, users can spread and post about their negative experiences by using several profiles (Gebauer, Füller & Pezzeri, 2013). As a result, this information can be spread to e.g. non-participating consumers and affect their brands perceptions. Thus, the employed strategy needs to be perceived as credible. In case consumers suspect that the company is not interested in consumers' needs and desires, but solely in their own profit, communicating co-creation becomes pointless (Morales, 2005). Thus, it is important to take the communicated attributes of the participant ('who'), the strategy ('how'), and the product ('what') into consideration in co-creation communication, and carefully deliberate what they can signal to the non-participants, in order to make sure to bridge these potential pitfalls.

### 2.1.2. Marketing Management and Co-creation

#### 2.1.2.1. Signaling Effects

The research area of signaling effects of advertising have been studied for decades (e.g., Nelson, 1974; Kirmani & Wright, 1989; Modig, Dahlén & Colliander, 2014). The idea of Signaling Theory is based on consumers use of signals to solve problems under conditions of asymmetric information (Kirmani & Rao, 2000). Both warranties and price have for example been shown to function as signals to evaluate product quality (Kirmani & Rao, 2000). Thus, it is possible for companies to provide

consumers with information regarding an unobservable element, by providing observable signals. Being able to signal e.g. high product quality is extremely useful for unknown brands' attempts to attract new customers.

#### 2.1.2.1.1. Perceived Expertise and Perceived Complexity as Signals from Communicated Co-creation

Hovland, Janis & Kelley (1953) define expertise as the *perceived degree of credibility a communicator has as a source of assertion*. In order to fit the definition into the context of this study, Perceived Expertise is defined as *the extent to which an ideator is perceived to be a valid source of knowledge about the product design process*. The Perceived Expertise of a source has shown to be important in creating credibility and to have a positive impact on Brand Attitude (Hovland, Janis & Kelley, 1953; Maddux & Rogers, 1980). Professionals have been suggested to often have a perceived advantage over consumers in terms of knowledge and experience (Moreau & Herd, 2009). Further, this has been supported by prior research, both in high and low complexity product domains (Schreier, Fuchs & Dahl, 2012). This implies that consumers have doubts regarding an average consumer's ability to innovate.

However, according to the co-creation literature, an average consumer's competence seems to be enough in order to create positive outcomes for a brand. For instance, Nishikawa et al. (2017) showed that merely communicating a product as *customer-ideated* improved the product's market performance. Furthermore, prior research has suggested that the complexity of the product is one important factor to consider before implementation of a co-creation initiative (Liljedal, 2016a). High complexity products are not as appropriate for collaborations with consumers compared to low complexity products. Liljedal (2016a) demonstrates that it can even generate negative perceptions of the brand. Commonly, scholars study complexity as a concept assigned to a specific product (e.g., Schreier, Fuchs & Dahl, 2012; Liljedal, 2016a). Thus, these studies examine different products, pre-defined as high or low in complexity when comparisons are made. This thesis takes a new perspective on this concept, by questioning whether the same product can be perceived differently among individuals. In this study, the concept therefore concerns an average consumer's Perceived Complexity of a product. Hence, the Perceived Complexity is defined as "*the extent to which consumers perceive a product to be difficult to design.*" (Schreier, Fuchs & Dahl, 2012, p.22)

As complexity increases, the need for design expertise has shown to become more central and therefore non-participants might become more critical toward involved consumers' design ability (Schreier, Fuchs & Dahl, 2012). Schreier, Fuchs & Dahl (2012) suggest that co-creation with average consumers enhances non-participants' perception of a firm's innovation ability. However, the same study also suggests a counterintuitive effect of less assigned expertise to co-creating consumers compared to professionals (Schreier, Fuchs & Dahl, 2012).

Prior research has indicated that the communicated identity of the co-creator is a factor of relevance as well (Fuchs et al., 2013). Fuchs et al. (2013) show that the co-creators of a luxury fashion product have to be legitimized by the brand or described as artists or celebrities. This because non-participating consumers otherwise do not perceive the participants as a credible source of status. In other words, Perceived Expertise connected to the specific product might be a relevant signal and factor concerning the brand evaluation. Additionally, Liljedal (2016a) suggests that providing information regarding the ability of co-creating consumers is a way to enhance the non-participating consumers' perceptions. To investigate this further, this thesis aims to shed some light on whether expertise is important in a low-status domain as well.

As the above review shows, previous studies exist on the signaling effects of expertise and complexity. However, there are limited studies conducted on the interrelation of Perceived Complexity and Perceived Expertise in a co-creation context. Further, there are also somewhat contradictory findings regarding the Perceived Expertise of participants in co-creation and its importance for successful customer co-creation. Hence, there is an interest in studying this interplay to further explain the intricacy of the communication of different co-creation initiatives.

#### 2.1.2.1.2. Perceived Similarity and Perceived Empowerment as Signals from Communicated Co-creation

The definition of Perceived Similarity used in this thesis is *the extent to which a consumer perceives another person to be similar to them*. The concept of Perceived Similarity in this thesis derives from the Social Identity Theory where it is defined as *“the self-categories that define the individual in terms of his or her shared similarities with members of certain social categories in contrast with other social categories.”* (Turner, 1999, p. 11). Social Identity Theory suggests that individuals do not only consider their personal identity as in *I* and *me*, but also their social identity as in *we* and *us* (Turner, 1999). Thus, the identity of people depends both on values and achievements of their own and of people whom they identify with (Cialdini et al., 1976). Somehow, through this social collectivity, the values and achievements of people whom they identify with almost become their own (Cialdini et al., 1976). This implies that co-creation effects on participants, like the feeling of empowerment, might also be transferable, to some extent, to non-participants who identify with the involved participating consumers. Dahl, Fuchs & Schreier (2014) support this claim by showing that co-creation initiatives can lead to identification with a firm, through the feeling of empowerment.

Furthermore, Cialdini (2017) suggests that behavior of similar others or by people we like become viewed as appropriate and correct. Thus, the actions of other people become a cue of how to act or what to believe. People assume that other people have more information and therefore a great amount of trust is put in the collective knowledge. The effect has shown to be even greater if the behavior is performed under uncertain circumstances, such as when information asymmetry prevails (Cialdini, 2017). As consumers often use cues to understand brands and their products when they are formerly

unknown and limited information is given (Kirmani & Rao, 2000), the social proof of similar others should, therefore, function as a signal to favor consumer perceptions and behavior toward a brand.

Moreover, this can be connected to the idea of consumer reference groups, which present three types of groups; (1) in-groups, a group characterized by people similar to the consumer, (2) out-groups, a group the consumer does not belong to that can be an aspirational group, and (3) dissociative out-groups, a group that the consumer wants to avoid being associated with (e.g., Escalas & Bettman, 2003; White & Dahl, 2006; 2007). Again, this highlights the importance of similarity and of not communicating a dissociative group of participating consumers. Hence the concept of similarity and social identity is highly relevant to further investigate in the context of communicated co-creation.

Similarity has, in prior research, been argued to have an impact on the perceptions and behavior of other people (e.g., Thompson & Malaviya, 2013; Dahl, Fuchs & Schreier, 2014; Cialdini, 2017). Dahl, Fuchs & Schreier (2014) suggested that the social identification with participants has an impact on firm identification and product preferences. However, if non-participants, on the contrary, feel dissimilar to the participants, e.g. in demographics, the positive effects of co-creation might be attenuated. Furthermore, there is also research suggesting that unspecified participants within advertising co-creation increase non-participants' skepticism about the participants' ability to perform the task properly (Thompson & Malaviya, 2013). Existing literature on co-creation initiatives infer positive outcomes for the firm by solely communicating consumer involvement in the NPD process (e.g., Meißner, Haurand & Stummer, 2017; Nishikawa et al., 2017). Hence, this generates a contractionary gap of knowledge regarding communication of co-creation. This suggests that the relationship between communication of consumer involvement and brand evaluations is of a more complex nature. In other words, there is interest in exploring this area further.

Empowerment has historically, in the context of co-creation, primarily been studied in connection to the co-creation participants (e.g., Fuchs, Prandelli & Schreier, 2010; Norton, Mochon & Ariely, 2012; Atakan, Bagozzi & Yoon, 2014). Fuchs, Prandelli & Schreier (2010) demonstrate that co-creation participants feel empowered. More specifically, they feel that they have the power to influence the product offerings. This results in a higher product demand from the participants (Ramani & Kumar, 2008). Further, the feeling of empowerment has also shown to affect brands positively in terms of increased loyalty and attitudes (Füller et al., 2009; Coelho, Rita & Santos, 2018). Therefore, it is empirically interesting to further investigate if this feeling can also transfer to non-participants. The interrelation between social identification and empowerment have only been briefly studied in the context of co-creation before (e.g., Dahl, Fuchs & Schreier, 2014). Therefore, it is also theoretically interesting to further investigate the interplay between these aspects of the communication, and to provide further explanatory contributions regarding co-creation initiatives' signaling effects.



### 2.1.2.2. Customer-Based Brand Equity

Customer-Based Brand Equity (further also referred to as CBBE) is a concept with several different existing conceptualizations and definitions (Rangaswamy, Burke & Oliva, 1993). It can simply be defined as *“the incremental utility or value added to a product by its brand name.”* (Yoo, Donthu & Lee, 2000, p.195). Several other scholars provide similar definitions of brand equity as the value added by the brand to the product (e.g., Leuthesser, 1988; Aaker, 1991; Srivastava & Shocker, 1991; Keller, 1993; Simon & Sullivan, 1993). As this study is investigating consumer responses, the chosen perspective of Customer-Based Brand Equity will be based on established communication effect variables of brand equity. These consist of Brand Attitudes, Brand Purchase Intention and Brand Loyalty (Rosengren & Dahlén, 2015).

Furthermore, Customer-Based Brand Equity is a well-established construct and is commonly studied in brand management literature. Previous research has shown CBBE's importance for future profits (Srivastava & Shocker, 1991), consumers' willingness to pay premium prices (Keller, 1993), brand extension success and attaining competitive advantage (Aaker, 1991). Clearly, the concept is of great importance and desirable to enhance for operating brands. Therefore, it is a relevant dependent variable in this study. In addition, as Brexendorf, Bayus & Keller (2015, p.548) express it, *“brand and innovation management need and benefit from each other.”* Their interrelation is nevertheless relatively under-researched, and an advanced understanding of their integration is desired (Brexendorf, Bayus & Keller, 2015). By choosing to study the communication of different innovation strategies' impact on this well-established brand concept, this study aims to contribute to this research gap. Furthermore, by bringing more explanatory value regarding these two research areas' relationship, the thesis will provide a more nuanced view on the phenomenon and the connection between these fields of research.

### 2.1.3. Theoretical Research Gap

This review of prior research within the fields of Innovation Management and Marketing Management demonstrates a threefold gap of knowledge. Firstly, research has not yet concluded which open innovation strategies are preferred. Especially, there is a lack of research within the coupled area, where co-creation is included. Scholars have individually compared different types of co-creation efforts to closed innovation. However, few studies have been found that investigate potential differences among several co-creation initiatives. Hence, a knowledge gap exists in the comparison of different co-creation efforts and their effect on a brand. Secondly, there is limited research on external views of consumer involvement. More specifically, few studies examine non-participating consumers' perceptions on aspects of co-creation efforts. With the rise of the internet, more companies have the resources to use co-creation strategies. Therefore, it is increasingly important to understand what impact the communication of these processes can have on non-participating consumers' perceptions of

the brand. Thirdly, there has been a lack of understanding how signaling factors affect the response to co-creation communication. The inclusion of Signaling Theory can highly contribute to the advancement of understandings of co-creation communication responses. The signaling variables examined in this thesis have, in prior research, demonstrated to be important in the context of co-creation, and hence in the research field. By further investigating their interrelations to each other and their impact on CBBE, the thesis wishes to add further explanatory value to the observed knowledge gap.

In previous research, these above-mentioned limitations together form a compelling gap of knowledge to be further investigated. Exploring the differences between various efforts in co-creation, a deeper knowledge of co-creation initiatives' efficiency will be created. These perspectives will provide a more nuanced explanation of the relationship between communication of co-creation efforts and the effect on the brand. In the illustration below (Figure 3), the theories and tested variables are presented as an overview of the dynamics of communicated co-creation.

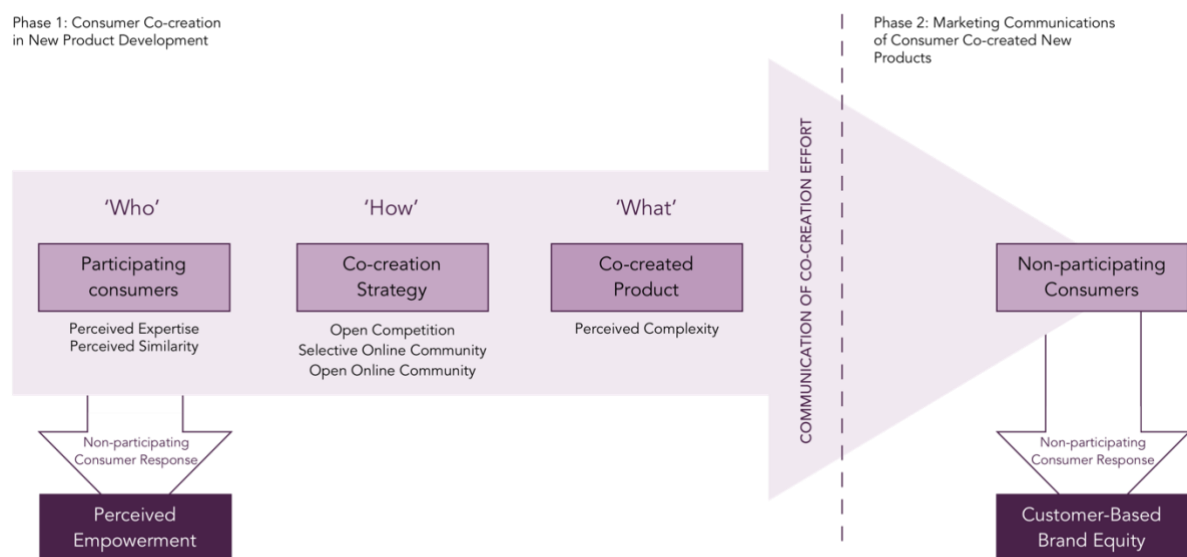


Figure 3: Study Specific Communicated Consumer Co-creation Framework, adapted from Liljedal (2016b, p. 19)



## 2.2. Theoretical Framework and Hypothesis Formulation

### 2.2.1. Co-creation and Customer-Based Brand Equity

Innovation management scholars have demonstrated that a competitive advantage can be gained by user-driven firms, as they are perceived to be better equipped to create new products that match the customer needs (e.g., Von Hippel, 2005; Nishikawa, Schreier & Ogawa, 2013). Participating consumers feel that they have an impact on the product offering, resulting in a higher demand for, and a better attitude toward, those products (Dahl, Fuchs & Schreier, 2014).

Consumers see user-driven firms as more innovative, as well as more customer-oriented (Lilien et al., 2002; Von Hippel, 2005; Schreier, Fuchs & Dahl, 2012). Further, they are also perceived to put the consumer's interests first, which has shown to lead to a higher purchase intention (Fuchs & Schreier, 2011). Additionally, previous research has indicated that non-participating consumers evaluate co-created products more positively (Fuchs & Schreier, 2011). Moreover, products and services that are co-created are often perceived as more desirable (Fuchs & Schreier, 2011), more unique and more attractive (van Dijk, Antonides & Schillewaert, 2014).

Following Piller, Ihl & Vossen's (2010) typology of customer co-creation, there is a difference between online communities and idea contests, in terms of degree of collaboration. In an Open Competition, a single customer contributes individually by submitting product ideas. In an online community however, a group of consumers together ideate, and suggest product ideas. Moreover, there might be a difference between the Open Online Community and the Selective Online Community. As an Open Online Community is accessible for anyone to join it is expected to be perceived as more available. In accordance with Cialdini's (2017) rule of scarcity, however, the Selected Online Community will be perceived as more exclusive, and hence more attractive.

As presented in the literature review, there are limited studies that investigate and compare different types of open innovation through co-creation. A great amount of studies suggest co-creation initiatives to be a favorable strategy to enhance brand and product perceptions (e.g., Fuchs & Schreier, 2011; Dahl, Fuchs & Schreier, 2014; Liljedal, 2016b). It is, however, unclear which co-creation effort is optimal based on, for example, company size or product category (Dahl, Fuchs & Schreier, 2014; Felin, Zenger, 2014). Hence, by testing these three scenarios individually, nuances of co-creation strategies and their effect on the perceptions of the brand will be further examined.

- H1** Compared to Closed Innovation, Customer-Based Brand Equity will be:
- higher in an Open Online Community
  - higher in a Selective Online Community
  - higher in an Open Competition

### 2.2.2. Perceived Expertise and Perceived Complexity

Co-creation has, in previous studies, been argued to have a positive impact on both attitudes and behavioral intentions (Fuchs & Schreier, 2011; van Dijk, Antonides & Schillewaert, 2014). However, it has been indicated that this relationship, in fact, is of a more complex nature (Gebauer, Füller & Pezzeri, 2013; Heidenreich et al., 2015).

For unfamiliar brands, the perception of a product's complexity to develop can have a crucial impact on a brand's success in a co-creation initiative (Liljedal, 2016a). This happens because non-participants perceive that an average consumer does not have the same ability and knowledge as an internal product developer (Fuchs & Schreier, 2011), hence the expertise is expected to be perceived as lower for co-creation participants. If a brand is unfamiliar, and the Perceived Complexity high, it is more important to focus on signaling competence and trustworthiness, before considering the implementation of co-creation (Liljedal, 2016a). For unfamiliar brands, the product is attributed back to the involved consumers (Liljedal, 2016a). If they are perceived to lack competence, the communication of co-creation might have negative effects (Liljedal, 2016a). Thompson & Malaviya (2013) furthermore show that when the co-creators of an ad are not clearly described, consumers get more skeptical of the co-creators' ability, which in turn affect the brand negatively instead. As Koppar is an unfamiliar brand, non-participants' Perceived Complexity is thus argued to matter for the importance of expertise and the relationship between communication of co-creation initiatives and the brand perceptions.

- H2**
  - a. When Perceived Complexity is low, communication of Consumer Involvement has a positive impact on Customer-Based Brand Equity compared to the communication of a closed innovation process
  - b. When Perceived Complexity is high, communication of Consumer Involvement has a less positive impact on Customer-Based Brand Equity compared to the communication of a closed innovation process
- H3** Compared to Closed Innovation, Perceived Expertise will be:
  - a. lower in an Open Online Community
  - b. lower in a Selective Online Community
  - c. lower in an Open Competition
- H4** When Perceived Complexity is higher, Perceive Expertise has a stronger positive impact on Customer-Based Brand Equity compared to when Perceived Complexity is lower

### 2.2.3. Perceived Similarity and Perceived Empowerment

User-driven firms are perceived to be more customer-oriented and more prone to put customers' interest first (Fuchs & Schreier, 2011). This implies that consumers also feel that they can make an impact. In accordance with Cialdini et al. (1976), when participants receive the power to impact the firm's products, non-participants experience a feeling of being part of the co-creation initiative as well, if they identify with the participants. Furthermore, Thompson & Malaviya (2013) additionally suggest that an increased identification with the co-creating participants will positively impact the effectiveness of communicating consumer involvement. The identification effect provides a reason to believe that non-participants should identify themselves more as consumers, than internal product developers. Hence, Perceived Similarity is believed to be higher for consumer co-creation strategies than for Closed Innovation. According to Social Identity Theory, however, it is important that the non-participating consumer feel part of the participating consumer community, to some extent, for this to have an effect (Dahl, Fuchs & Schreier, 2014). If the presented co-creation initiative is perceived as more accessible, non-participants feel more socially included and identify to a larger extent with the participants (Dahl, Fuchs & Schreier, 2014).

**H5** Compared to Closed Innovation, Perceived Similarity will be:

- a. higher in an Open Online Community
- b. higher in a Selective Online Community
- c. higher in an Open Competition

Former research has found that the feeling of similarity toward co-creation participants enhance a consumer's identification with a firm and additionally impact their attitudes and brand evaluations (Dahl, Fuchs & Schreier, 2014). According to Social Identity Theory, people identify based on how they categorize themselves, and what group they consider themselves to be a part of. These groups can range from a certain social class to a small tight-knit niched community (Tajfel & Turner, 1986). When consumers can identify with the group creating a product, their perceptions of the actual product, as well as the brand at large, improves (Dahl, Fuchs & Schreier, 2014). Recent research shows that consumers' trust toward other consumers is increasing, regardless of whether it is someone you know or a stranger on the internet. Products created by consumers are hence more prone to be perceived as trustworthy, and the brand itself as more positively (Acar & Puntoni, 2016).

**H6** A higher Perceived Similarity to the ideator will lead to a higher level of Customer-Based Brand Equity

Empowerment is defined as "*consumers' perceived influence on product design and decision making.*" (Füller et al., 2009, p. 78) The involvement of consumers has been suggested to influence, not only the participating consumers, but also how the company is perceived by other consumers (Fuchs & Schreier, 2011). Non-participating consumers that are exposed to consumer involvement, for

example in the form of consumer co-creation, are therefore assumed to feel more empowered to affect the specific company's product development (Dahl, Fuchs & Schreier, 2014).

- H7** Compared to Closed Innovation, non-participants' Perceived Empowerment will be:
- a. higher in an Open Online Community
  - b. higher in a Selective Online Community
  - c. higher in an Open Competition

Consumer empowerment has been proposed to impact the individual's attitudes and motivations (Füller et al., 2009). By empowering consumers to be a part of the NPD process, loyalty (Coelho, Rita & Santos, 2018) and trust (Randall, Gravier & Prybutok, 2011) toward the organization increases. Moreover, consumer involvement results in a more positive attitude toward the company, a higher level of perceived consumer orientation and greater behavioral intentions (Fuchs & Schreier, 2011), as well as buying behaviors (Acar & Puntoni, 2016).

Research on the interaction between similarity and empowerment has shown amplifying effects. The Perceived Similarity has been indicated to intensify the principle of social proof, meaning that people are even more likely to imitate the behaviors of similar others (Cialdini, 2017). When the Perceived Similarity is higher, identification is stronger, stimulating Perceived Empowerment (Dahl, Fuchs & Schreier, 2014). Since the participating consumers are also users of the products, non-participants connect their social identities to the co-creating participants. Therefore, they feel that they have been vicariously involved in the development process, which in its turn creates a feeling of empowerment (Dahl, Fuchs & Schreier, 2014). The feeling of empowerment is expected to, in its turn, have a stronger positive impact on the non-participants' views on the brand when Perceived Similarity is high.

- H8** When Perceived Similarity is higher, Perceived Empowerment has a stronger positive impact on Customer-Based Brand Equity compared to when Perceived Similarity is lower.

In Table 1 below, a summary of the generated hypotheses, as well as an illustration (Figure 4), are presented.

H1	Compared to Closed Innovation, Customer-Based Brand Equity will be: <ul style="list-style-type: none"> <li>a. higher in an Open Online Community</li> <li>b. higher in a Selective Online Community</li> <li>c. higher in an Open Competition</li> </ul>
H2	<ul style="list-style-type: none"> <li>a. When Perceived Complexity is low, communication of consumer involvement has a positive impact on Customer-Based Brand Equity compared to the communication of a closed innovation process</li> <li>b. When Perceived Complexity is high, communication of consumer involvement has a less positive impact on Customer-Based Brand Equity compared to the communication of a closed innovation process</li> </ul>
H3	Compared to Closed Innovation, Perceived Expertise will be: <ul style="list-style-type: none"> <li>a. lower in an Open Online Community</li> <li>b. lower in a Selective Online Community</li> <li>c. lower in an Open Competition</li> </ul>
H4	When Perceived Complexity is higher, Perceive Expertise has a stronger positive impact on Customer-Based Brand Equity compared to when Perceived Complexity is lower
H5	Compared to Closed Innovation, Perceived Similarity will be: <ul style="list-style-type: none"> <li>a. higher in an Open Online Community</li> <li>b. higher in a Selective Online Community</li> <li>c. higher in an Open Competition</li> </ul>
H6	A higher Perceived Similarity to the ideator will lead to a higher level of Customer-Based Brand Equity
H7	Compared to Closed Innovation, nonparticipants' Perceived Empowerment will be: <ul style="list-style-type: none"> <li>a. higher in an Open Online Community</li> <li>b. higher in a Selective Online Community</li> <li>c. higher in an Open Competition</li> </ul>
H8	When Perceived Similarity is higher, Perceived Empowerment has a stronger positive impact on Customer-Based Brand Equity compared to when Perceived Similarity is lower

*Table 1: Summary of formulated hypotheses*

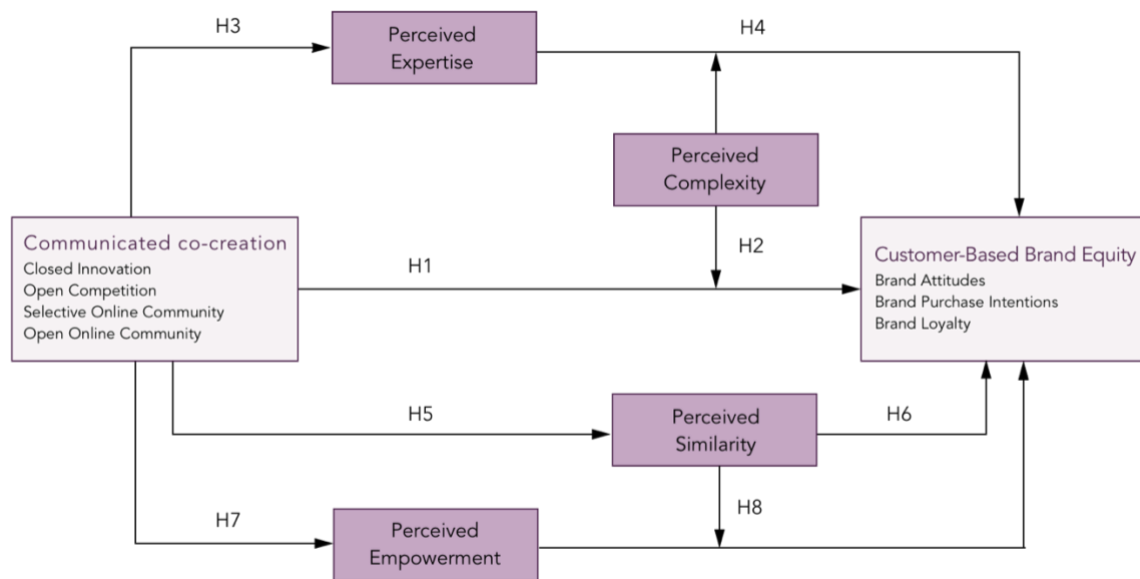


Figure 4: Illustration of formulated hypotheses

### 3. Methodology

*This section presents the methodological approach of the thesis. First, the scientific approach chosen is explained and motivated, followed by a section presenting the research design in detail. Further, the data quality is discussed, as well as the ethical considerations of the study.*

#### 3.1. Research Approach and Scientific Perspective

The thesis applies a deductive research approach, meaning hypotheses were generated with a base in theory. These were then tested through an empirical study. Academic journal articles and books within what is commonly signified as the positivist philosophy of science, form the theoretical basis for this thesis. This philosophical view has traditionally been dominating within marketing research (Anderson, 1983; Deshpande, 1983). Applying that same characterization of positivism, the thesis also applies a positivistic scientific perspective. As a result of the dominance of this research approach in earlier research on consumer perceptions of marketing communications within marketing research, it was deemed a sound choice.

The thesis falls within the areas of Marketing Management and Innovation Management theory. The chosen focus of this study is solely on the consumer reactions to communicated co-creation strategies, not on objectives or tactics of the firm. As it is focusing on explaining consumer responses to co-creation initiatives, the measures chosen for the study are well-established within the area of consumer responses. In conclusion, this research approach and scientific perspective are appropriate for the area of marketing science, for the research questions as well as consistent with a long tradition of research within the field.

#### 3.2. Research Design

*The research is designed in three main steps. Firstly, a pre-study to check manipulations and a pilot-test of the developed survey is done. Secondly, the main study is conducted testing the main concepts. Lastly, the data analysis is made, in which the collected data is organized and analyzed.*

##### 3.2.1. Preparatory Work

###### 3.2.1.1. Manipulation Check

Scenarios to describe the different types of consumer involvement in NPD processes were developed. Thereafter, the understandings of the manipulations were qualitatively tested on nine people. After the scenarios were formulated, they were tested on a larger scale to make sure that the respondents would perceive the described scenarios as expected. This was accomplished through an online-based questionnaire where the respondents were randomly assigned to read one of the scenario texts and then answer who was involved in developing the product idea. The online survey tool Qualtrics was used to

design and distribute the study. Initially, 115 responses were collected, equally distributed among the four groups. These results showed that one of the scenarios needed to be reformulated, since the level of understanding of the scenario was deemed too low (52 %). The edited scenario was tested again on 30 new respondents. With a threshold of at least 70% correct answers, every one of the scenario descriptions were then considered understandable enough to be used in the main study (see details in Appendix 4).

#### 3.2.1.2. Survey Pilot Test

Before collecting the main study data, the developed survey was pilot tested to ensure respondents' experience and understanding. More specifically, the goal of this pilot test was to ensure the understanding of the chosen measures and scales in the final questionnaire design (Saunders, Lewis & Thornhill, 2009). This was achieved by sending the full questionnaire, designed and distributed online via Qualtrics, to a group of 10 people of different ages and education levels. These people were in ages ranging from 23 to 62 (with an average age of 32). Moreover, it had a fairly even distribution between female and male participants (60% female, 40 % male).

#### 3.2.1.3. Survey Translation

In order to reach respondents living in Sweden, who do not have Swedish as a mother tongue, the main study questionnaire was translated into English. The reason for not having the survey exclusively in English was to ensure understanding of the scenarios and questions among Swedish-speaking respondents, especially among those not used to English business terms. According to Beaton et al. (2000) there are two crucial steps to ensure the content validity of a multi-language survey; linguistic validation and cultural validation. As the sample was expected to be highly familiar with the cultural context, all permanently living in Sweden, the need for cultural validation was presumed to be low. Hence, the aim of the translation effort was to ensure linguistic validity by following steps ensuring a valid translation of the questionnaire. The translation was done by one of the authors, translating the entire questionnaire from Swedish to English using the translation tool provided by Qualtrics. The translation was then translated back into Swedish by the other author to ensure the translation was correct as according to Beaton et al. (2000). In practice this meant that the respondents could choose between conducting the survey in English or Swedish directly on the online survey website. The risk of misunderstandings and translation mistakes was further limited by including both English and Swedish native speakers in the pilot testing of the survey. When looking at the distribution of respondents taking the main study questionnaire in the two languages, 26 % conducted it in English and the remaining 74 % did so in Swedish.



### 3.2.2. Main Study

#### 3.2.2.1. Survey Design

The main study was designed in three main parts; a scenario description, sections with multi-item scales related to the investigated concepts, and a final section including demographics and control questions. Four different versions of scenarios in the form of a describing text, an image of the developed product and a presentation of the case company were initially presented (see example in Appendix 1). These four pre-tested scenarios were randomly assigned to the respondents through the Qualtrics randomizer tool. Each respondent received one scenario description that they were asked to keep in mind during the survey (see manipulations in Table 2).

Scenario	Description
Closed	The new coffee was developed on the initiative of Fredrik and his product development team, as there, according to them, was no sufficiently dark roasted coffee in their assortment.
Selective Online Community	The new coffee was developed on the initiative of and in collaboration with Koppar's ambassadors; a selected group of their most engaged customers. These customers have been added to a Facebook group by Fredrik himself, where they can discuss and bounce ideas about new products and roasts. No6 Mustig was developed as the ambassadors had a wish of adding a more darkly roasted blend to the product range.
Open Online Community	The new coffee was developed on the initiative of and in collaboration with consumers through a Facebook group, open for everyone to join. In this group, members can discuss and bounce ideas about new products and roasts. No6 Mustig was developed as the members of this group had a wish of adding a more darkly roasted blend to the product range.
Open Competition	The new coffee was developed when Koppar's customers started asking for a new coffee. Koppar then launched a competition where anyone that wanted could take part and suggest what type of coffee they would like Koppar to make. In a voting, open for everyone to participate in, No6 Mustig was then voted as the winning suggestion.

*Table 2: Scenario manipulations presented in the questionnaire*

#### 3.2.2.2. Measures

The measures used were presented as a series of multi-item scales. These outlined how relationships between variables are conceptualized. The items are all established measurements of consumer responses commonly used in marketing research and are therefore considered to be tested and validated. Furthermore, the measures were adapted to the context and scope of the study. The specific items and corresponding questions can be found in the Appendix 5.

The signaling variables have already been studied in the context of co-creation before (e.g., Schreier, Fuchs & Dahl, 2012; Dahl, Fuchs & Schreier, 2014; Liljedal, 2016a), thus, they are all expected to have an impact on the phenomenon studied. This demonstrates their relevance in the research field. Continuing the investigation will achieve an even more nuanced understanding of the concepts' interrelations to each other and to the communication of consumer co-creation.

#### 3.2.2.2.1. Customer-Based Brand Equity

In order to test the Customer-Based Brand Equity, well-established measurements were used, including items in three different categories. These comprise of *Brand Attitudes*, *Brand Purchase Intention* and *Brand Loyalty*. Two to five items per category were used, in order to further create indexes of these. The items used for Brand Attitudes and Brand Purchase Intention are solely based on Rosengren & Dahlén's (2015) adaption of Grohmann's (2009) brand equity items. Brand Attitude was measured on the overall opinion of the brand, while Brand Purchase Intention measured the likeliness of buying products or services from the brand in the future. Both was measured through a seven-point Likert type scale. The Brand Loyalty index included both the attitudinal and behavioral aspect of the concept. As Brand Loyalty is a concept referring to a continuous attitude and behavior and the chosen study unit, Koppar, is an unknown brand, some loyalty items were a bit problematic to include in the survey. However, as Brand Loyalty is a core dimension of Customer-Based Brand Equity (Aaker, 1996), the concept was still deemed necessary to include. The chosen items measure the overall Brand Loyalty and were retrieved from several sources including; Jacoby & Kyner (1973), Aaker (1996) and Rosengren & Dahlén (2015). The assessment of these items was made through statements with a seven-point Likert scale, ranging from *Strongly disagree* to *Strongly agree*.

#### 3.2.2.2.2. Perceived Expertise

Perceived Expertise was measured through a five-item measure based on Ohanian (1990), assessing the initiator of the product as for example *Knowledgeable – Unknowledgeable* and *Skilled – Unskilled*, using a seven-point Likert type scale.

#### 3.2.2.2.3. Perceived Complexity

The Perceived Complexity measurement was based on the definition by Schreier, Fuchs & Dahl (2012) and was measured using a scale ranging from *Not at all complex to develop* to *Very complex to develop*, on a seven-point scale.

#### 3.2.2.2.4. Perceived Similarity

The Perceived Similarity measures were retrieved from Dahl, Fuchs & Schreier (2014). The index consists of three items, that were all measured on a seven-point Likert type scale.

#### 3.2.2.2.5. Perceived Empowerment

The measurement of Perceived Empowerment is applied from Dahl, Fuchs & Schreier (2014), using four items measured on a seven-point Likert type scale.

#### 3.2.2.3. Sample

The sample originally consisted of 250 respondents and was collected between the 11<sup>th</sup> and 30<sup>th</sup> of October 2018. The main study survey was distributed online through the online survey software Qualtrics on Facebook to the authors' networks of friends and acquaintances and furthermore distributed through their respective networks. The respondents were informed about their anonymity and that the data provided will be used only for research purposes. This was done in order to increase participation and honest answers, despite the method's disadvantage of limited control and supervision of respondents. The sample is furthermore a convenience sample and thus not representative for the whole population, since there is a risk that some groups are not represented in the sample. This issue will furthermore limit the generalizability of the study (Jacobsen, 2002). However, convenience samples are very common to use in marketing and management research. In customer behavior research, it has even become the norm (Bryman & Bell, 2015). Thus, the use of convenience samples, although producing some challenges, can be considered an effective way of collecting data in respect to the scope and time-frame of this thesis.

After the sample was tested for the attention and manipulation control variables, the sample was reduced to 157 respondents. Further, this sample was tested to ascertain if there existed significant differences in responses between regular coffee drinkers and/or buyers, compared to people neither drinking nor buying coffee. An independent sample t-test was conducted between these two groups, which indicated significant differences in some of the dependent variables. Therefore, it was decided to exclude the group of people who neither drink nor buy coffee from the final sample. As the target group for the study is the average consumer of coffee, this distinction was important to make. The final sample consisted of 133 respondents, rather evenly distributed among the four scenarios (see Table 3). Moreover, the sample reached the limit of at least 30 respondents in each group, which enabled comparison between groups for the analysis as according to the Central Limit Theorem (Newbold, Carlson & Thorne, 2012).

Due to the convenience sampling method, the average age is rather low, 26 years old, and median age 24 years old, even though an age range between 20-72 exists. The gender distribution is slightly skewed with 65 % of the total sample consisting of females, 33 % of males and 2 % of non-disclosed. Due to the fact that the authors' networks are not representative for the population, it also shows in the sample and is one of the drawbacks of the chosen sampling method.

	<b>Closed Innovation</b>	<b>Selected Online Community</b>	<b>Open Online Community</b>	<b>Open Competition</b>	<b>Total</b>
N	35	36	32	30	133

Table 3: Sample distribution

	<b>Total</b>
<b>Age</b> (median)	24
<b>Age</b> (average)	26
<b>Gender</b> (male/female/non-disclosed)	33% / 65% / 2%
<b>Language</b> (Swedish/English)	74% / 26%
<b>N</b>	133

Table 4: Sample information

### 3.2.2.4. Data Collection

In practice, the described approach led to the test of our hypotheses in our main study through a survey format. This was conducted as an online-based self-completion questionnaire to be able to test the relationships between the chosen variables and the ultimate effect on Customer-Based Brand Equity. Hence, a quantitative, survey-based approach is best suited to analyze the presented phenomena. Within the quantitative approach, the self-completion questionnaire is a very common method of data collection. As this has been demonstrated to fit for research questions measuring perceptions in relationship to contextual variables, it is deemed to be a preferred type of data collection for this study (Bryman & Bell, 2015).

Even though self-completion questionnaires can be problematic in the sense that there is no possibility to ask additional questions and prompt the respondent, it is a quick and efficient way to collect quantitative data. Moreover, by designing a survey in such manner where it clearly presents the questions, both misunderstanding and inconvenience on the respondents' part as well as interviewer effects are reduced in comparison to for example a structured interview (Bryman & Bell, 2015).

The usage of online questionnaires has been increasingly common in management research, and research in general (Bryman & Bell, 2015). The ease of online distribution entails no requirements of coding of the replies and makes the transcription easier and more reliable (Ilieva, Baron & Healey, 2002; Wright, 2005; Denscombe, 2014). This study aims to study a wider population, and their perceptions of a brand, with an aim to reach a wider geographical group, in several different parts of Sweden. This was made possible by using digital distribution of an online questionnaire as the reach is much wider in those media, and the link can be forwarded by the respondents to encourage other respondents to partake (Stern et al., 2017). Moreover, respondents can choose to fill out the questionnaire when they have time and energy, a possibility that does not necessarily occur when filling out a paper survey that needs to be handed in personally. These factors make the data collection

method advantageous to use, especially when the respondents are frequent users of the internet (Bryman & Bell, 2015), which is the case for this study. The sampled group are likely familiar and comfortable with using technology to a large extent, and therefore problems regarding the understanding of the questionnaire system was minimal. However, the user experience for the particular questionnaire was also tested in the preparatory work (see 3.2.1.).

### 3.2.3. Data Analysis

The analytical tool used for the analysis of the collected data was IBM SPSS Statistics version 25. In order to analyze the data and test the hypotheses several different analytical tests were conducted. First of all, in order to create indexes of several variables, a reliability test was made to measure Cronbach's Alpha. Results of 0.7 and above were accepted in accordance with Söderlund (2005) and indexes were made accordingly. Secondly, as some hypotheses required a comparison between means of different groups, the One-Way ANOVA test was conducted when the number of groups to compare exceeded two. When only two groups were compared, an Independent Sample t-test was made instead, as this analytical test is then preferred (Newbold, Carlson & Thorne, 2012). Furthermore, in order to test the moderation effect of a variable, a test was conducted through the SPSS add-in tool Process version 3.1 by Andrew F. Hayes (Model 1). This tool enables estimation of moderation models in a linear regression framework (Preacher & Hayes, 2008). Furthermore, in order to counteract any non-normality and to provide a better representation of the data, the sample was bootstrapped (n=5000 bootstrap samples) instead of using Sobel z-test, since bootstrapping has shown to, in most cases, be more powerful (Baron & Kenny, 1986; Preacher & Hayes, 2008).

The significance levels accepted throughout the hypotheses testing and the whole study were 1 % (marked \*\*\* in tables), 5 % (\*\* in tables), and 10 % (\* in tables). These three significance levels are clearly reported throughout the study in order to allow the reader to determine the extent to which the results are perceived to be valid and generalizable.

## 3.3. Data Quality

*This section assesses the data quality of the study through three of the most prominent criteria; reliability, validity and replicability, as argued by Bryman & Bell (2015). Lastly, it presents the ethical considerations made in the thesis.*

### 3.3.1. Reliability

#### 3.3.1.1. Internal Reliability

In order to increase the reliability of the study, concerned with the consistency of measures, multi-item measures were used to measure the same concept, with the purpose of further integrating them as indexes. Further, to increase the internal reliability, Cronbach's Alpha was measured to ascertain that

the scales measured the same concept. Values over 0.7 were accepted, in order to ensure a high internal consistency among the questions (Söderlund, 2005). See Table 5 below for details concerning indexes and Cronbach's Alpha, and Appendix 10 for more details on items included in the indexes.

<b>Index</b>	<b>Cronbach's Alpha</b>
<i>Perceived Similarity</i>	0.857
<i>Perceived Expertise</i>	0.871
<i>Perceived Empowerment</i>	0.910
<i>Brand Attitude</i>	0.914
<i>Brand Purchase Intention</i>	0.973
<i>Brand Loyalty</i>	0.872

*Table 5: Indexes and Cronbach's Alpha*

### 3.3.1.2. Stability

Furthermore, the main study is only measured once, which negatively affect the stability of the measures. However, since the used measurements have been proven to be validated measures in prior research, they are argued to be stable over time which decreases the risk of misunderstandings. Consequently, the results are more easily comparable to other studies (Söderlund, 2005).

## 3.3.2. Validity

### 3.3.2.1. Measurement validity

The measurement validity was considered during the development of the survey design. The chosen measures for each concept in the survey were retrieved from earlier studies in order to be certain that these measurements measure what these concepts are supposed to represent (Söderlund, 2005). The chosen measures have been proven in previous studies to be validated for these concepts, which strengthens the measurement validity of the study. However, the survey was offered in both Swedish and English and the measurements were therefore translated, which might have had a negative effect on measurement validity. This decision was still considered appropriate, as respondents who answer a questionnaire in their native language are more likely to completely understand the described scenarios and questions which is essential for the study. Furthermore, respondents being able to choose their preferred language, made it more likely that they really pay attention. This is essential for the trustworthiness of the collected data. Thus, this compromise was made in order to minimize the number of non-attentive respondents and to increase the trustworthiness of the collected data.

### 3.3.2.2. Internal validity

Internal validity is concerned with the accuracy of causal relationship conclusions (Bryman & Bell, 2015). Therefore, the study design was developed to minimize confounding effects. The scenarios were designed to be exactly the same, except the manipulation. Thus, the communication of whom took the initiative to develop the new product was the only part that differed among the four scenarios.

Moreover, the use of an unknown brand as a study unit eliminated the issue of previous existing brand associations among respondents and decreased the risk of confounding effects and instead increased legitimacy (Colliander & Dahlén, 2011).

Furthermore, the survey was distributed similarly during the whole data collection process in order to reduce the risk of different contexts affecting the respondents. The survey was distributed online to be done either on a computer or on a phone. However, the authors could not control the setting of where the respondents answered the questionnaire, which decrease the level of the internal validity. Due to the chosen distribution method the authors could not personally control the level of attention and understanding of the survey content. However, to prevent that the data collection process was affected by this issue, there was an attention related question added to the survey and also an e-mail address available to send questions to.

### 3.3.2.3. External validity

External validity relates to the relevance, representativeness and generalizability of the study results, and if the results can be applied beyond the specific research context (Cook, Campbell & Shadish, 2002; Jacobsen, 2002; Bryman & Bell, 2015).

The limited resources available as a student combined with the limited timeframe to execute the study made it too difficult to secure a probability sample and therefore a convenience sampling process was used, which affected the generalizability negatively and thus the external validity as well (Bryman & Bell, 2015). This sampling bias indicates that some groups of the population might not have had a chance of being selected and the sample is hence not randomized (Bryman & Bell, 2015). This chosen sampling method will affect the external validity negatively, however, as earlier discussed, the convenience sampling method are argued to have practical advantages, which in these specific conditions, and in the scope of the study made it an appropriate choice (Bryman & Bell, 2015).

### 3.3.3. Replicability

To warrant for the replicability of the study, the research process is thoroughly described; theoretically, methodically and empirically. This information is important, and needed, if contradicting results from subsequent studies were to be found and a researcher therefore would like to reproduce the study (Bryman & Bell, 2015). Furthermore, in order to reduce the risk of faulty measures, the measures used in the survey are well-established, and have thus been tested before, both concerning validity and reliability.

### 3.3.4. Ethical considerations

Several measures were employed to ensure the ethical standpoint of the study grounded in Diener & Crandall (1978) ethical principles. The respondents were informed that the survey was completely anonymous. The respondents could voluntarily supply their email address to be a part of lottery where they could win coffee, however, it was clearly communicated that the email address would only be used for this purpose. Further, the intention of the data collection, to only use it in research purposes, was clearly communicated in the beginning and the end of the survey. Moreover, as data was collected through a self-completion questionnaire, where the respondents themselves chose to answer, there was no direct pressure from the outside. However, the respondents were asked in person or via online direct messages, which can in some extent be considered influencing tactics. The majority of participants received the link to the online questionnaire and could complete it when and if they wished to do so. Hence, invasion of privacy is not considered to be an issue, nor is the risk of damage to participants.



## 4. Results and Analysis

*This chapter presents the results from the conducted study and the tests of the stated hypotheses. The chapter has the same disposition as Chapter 2.2. Theoretical Framework and Hypothesis Formulations, thus, the hypothesis tests are presented in the same order as they were introduced.*

### 4.1. Hypotheses Testing

#### 4.1.1. Co-creation and Customer-Based Brand Equity

First of all, the study seeks to test the hypothesis concerning the communication of the different co-creation scenarios and their effect on Customer-Based Brand Equity compared to a Closed Innovation scenario. As this suggests a comparison between four groups, a One-Way ANOVA test was conducted (Newbold, Carlson & Thorne, 2012). Furthermore, the One-Way ANOVA test included a post-hoc Scheffe test in order to gain more details about the comparison of means. As Customer-Based Brand Equity consists of three dependent variables; Brand Attitude, Brand Purchase Intention and Brand Loyalty, the test was made for each one of them.

The results show that there are no significant differences in means between the groups for Brand Attitude ( $F(3, 129) = 0.61, p = 0.61$ ). Moreover, there are no significant differences in means between the groups for Brand Loyalty ( $F(3, 129) = 2.04, p = 0.111$ ) either. However, the results show significant differences in means between the groups for Brand Purchase Intention ( $F(3, 128) = 4.88, p < 0.01$ ).

As the results only present significant differences in means for Brand Purchase Intention, this is the only result presented from the post-hoc Scheffe test below (see Table 7). This test indicates that there are no significant differences in the means for Brand Purchase Intention between the Closed Innovation scenario and the Selective Community scenario ( $p = 0.992$ ). The same conclusion is drawn between the closed innovation scenario and the Open Competition scenario ( $p = 0.794$ ). However, the non-participants exposed to the Closed Innovation scenario have significantly higher purchase intention compared to the non-participants exposed to the Open Community scenario on a ten percent significance level ( $p < 0.1$ ).

As hypotheses 1 a, b, and c predict that communication of different co-creation initiatives should lead to a higher Customer-Based Brand Equity, this result regarding Brand Purchase Intention is not only unsupportive of the hypothesis, but also contradicting. Regarding Brand Attitude and Brand Loyalty, no differences in means are found between the groups, and thus no support for the hypotheses. H1a, H1b, and H1c are therefore rejected in this study.

Scenario	Brand Attitudes (SE)	Brand Purchase Intention (SE)	Brand Loyalty (SE)
Closed Innovation	5.34 (0.17)	4.20 (0.28)	3.37 (0.23)
Selective Online Community	5.64 (0.17)	4.08 (0.26)	3.58 (0.22)
Open Competition	5.49 (0.17)	4.60 (0.29)	3.37 (0.25)
Open Online Community	5.36 (0.20)	3.13 (0.28)	2.81 (0.23)
Significance level	0.610	0.003***	0.111

Table 6: Means of Customer-Based Brand Equity items, per scenario

I-J	Difference in Means	Significance level
Closed Innovation – Selective Online Community	0.12	0.992
Closed Innovation – Open Competition	-0.40	0.794
Closed Innovation – Open Online Community	1.08*	0.057

Table 7: Mean comparison of Brand Purchase Intention, between scenarios

**H1** Compared to Closed Innovation, Customer-Based Brand Equity will be:

- higher in an Open Online Community
- higher in a Selective Online Community
- higher in an Open Competition

**Rejected**  
**Rejected**  
**Rejected**

#### 4.1.2. Perceived Expertise and Perceived Complexity

The moderating effect of Perceived Complexity on the relationship between communicating various co-creation strategies and Customer-Based Brand Equity was tested through Hayes' Process version 3.1 add-in tool for SPSS. This test was done for each one of the dependent variables that CBBE consists of, namely Brand Attitudes, Brand Purchase Intention and Brand Loyalty (see details in Table 8). As the independent variable in this test is a multi-categorical variable, the conducted test used indicator coding, which is according to Hayes & Montoya (2017) probably the most commonly used coding system. This means that the conducted tests compare each one of the consumer co-creation initiatives with the Closed Innovation scenario. Therefore, three different interaction effects are presented, one for each of these comparisons.

Regarding Brand Attitude, the test did not find any significant interaction effects (see Table 8) for any of the different scenario comparisons ( $p > 0.1$ ). This suggests that Perceived Complexity does not moderate the relationship between communicating consumer involvement and Brand Attitude.

Studying Brand Purchase Intention, the same conclusion is valid for the interaction effect between the Closed Innovation and Selective Community scenarios (interaction effect 1;  $p = 0.144$ ) and also between the Closed Innovation and Open Competition scenarios (interaction effect 2;  $p = 0.125$ ).

However, regarding the interaction effect between the Closed Innovation and the Open Community scenario, the interaction effect is significant on a 10 percent significance level ( $p < 0.1$ ). Similar results are found for Brand Loyalty. Interaction effect one and two are non-significant (interaction effect 1;  $p = 0.712$ , interaction effect 2;  $p = 0.599$ ), but the interaction effect between the closed innovation and the open community scenario is, however, significant on a five percent level ( $p < 0.05$ ).

To furthermore investigate the moderating effect of Perceived Complexity between the communication of a Closed Innovation process and an Open Community co-creation initiative on Brand Purchase Intention and Brand Loyalty, more detailed data is presented about these relationships (see Table 9). In order to probe the interaction, an omnibus inference is made for both of the dependent variables (Hayes & Montoya, 2017). The Process tool provides this by showing the conditional effects of the focal predictor at values of the moderator (see Table 9). This indicates the estimated effect of the independent variable on the dependent variable at one or more values of the moderator (Hayes & Montoya, 2017). The values of the moderator represent the 25<sup>th</sup>, 50<sup>th</sup> and 75<sup>th</sup> percentiles, which is commonly used when the moderator scale is continuous (Hayes & Montoya, 2017). Regarding Brand Purchase Intention, these results show that the interaction effect is significant for medium Perceived Complexity ( $p < 0.05$ ) and for high Perceived Complexity ( $p < 0.05$ ). However, no significant interaction effect is found for the condition of low Perceived Complexity ( $p = 0.788$ ). An illustration of the relationship can be found in Graph 1.

Similar conclusions are drawn for Brand Loyalty. Likewise, the interaction effect is significant for medium complexity ( $p < 0.05$ ) and for high complexity ( $p < 0.05$ ), but not for a low Perceived Complexity conditions ( $p = 0.595$ ). An illustration of the relationship can be found in Graph 2. The moderating relationship thus only exist when complexity is perceived as medium to high for both Brand Purchase Intention and Brand Loyalty. Regarding the hypotheses, since no significant moderating effect is found under low complexity conditions in any of the dependent variables, H2a is rejected.

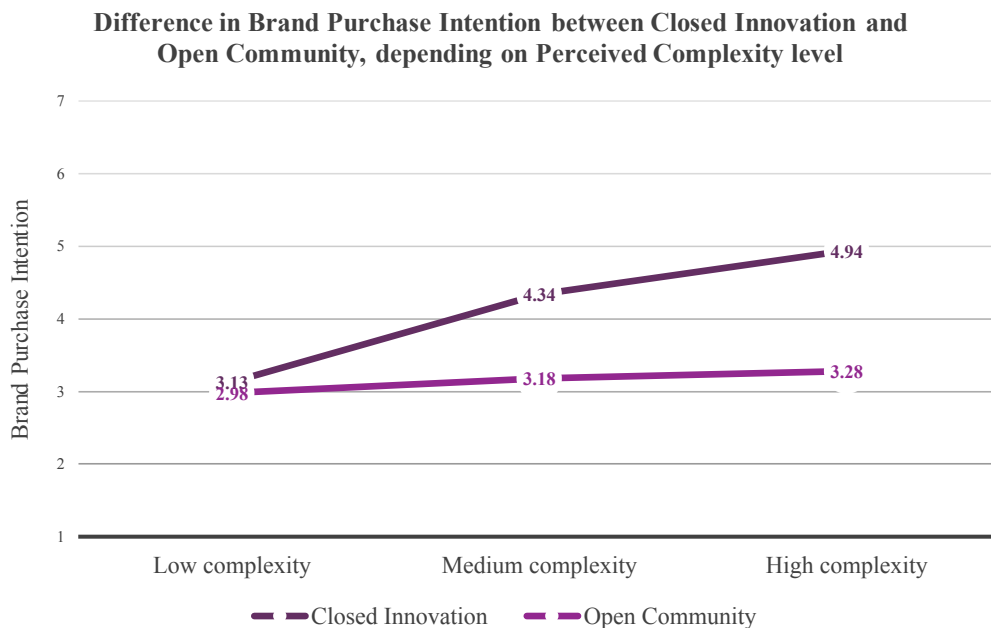
There are no significant moderation effects on CBBE found between neither Closed Innovation and Selective Community nor between the Closed Innovation and Open Competition scenarios. However, between Closed Innovation and Open Community, Perceived Complexity is found to be moderating the effects on both Brand Loyalty and Brand Purchase Intention, where medium and high Perceived Complexity favor communication of a Closed Innovation process. H2b can, therefore, be considered partially supported. Nonetheless, it is important to notice, it is not supported for all Customer-Based Brand Equity variables or between every consumer involvement scenario compared to Closed Innovation.

	Brand Attitude	Brand Purchase Intention	Brand Loyalty
<b>Model Summary</b>			
<b>R<sup>2</sup></b>	0.19	0.18	0.20
<b>F</b>	(7, 125) = 4.06	(7, 124) = 3.91	(7, 125) = 4.60
<b>p</b>	0.001	0.001	0.001
<b>ΔR<sup>2</sup></b>	0.01	0.028	0.031
<b>Interaction effect 1: Selective Community</b>	<i>p</i> = 0.857	<i>p</i> = 0.144	<i>p</i> = 0.712
<b>Interaction effect 2: Open Competition</b>	<i>p</i> = 0.639	<i>p</i> = 0.125	<i>p</i> = 0.599
<b>Interaction effect 3: Open Community</b>	<i>p</i> = 0.640	<i>p</i> = 0.063	<i>p</i> = 0.042

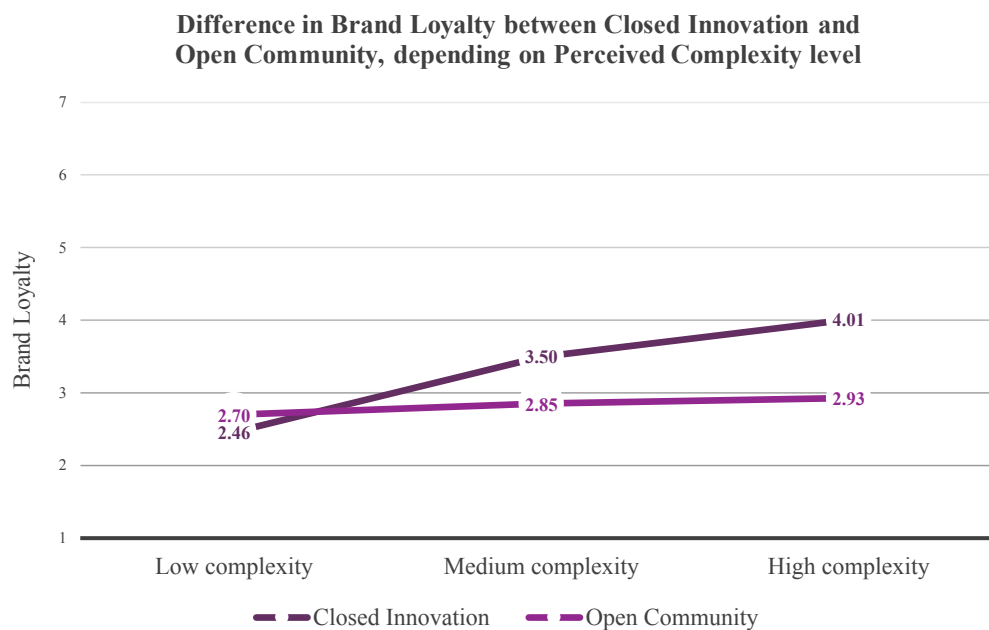
Table 8: Interaction effect of Perceived Complexity, as compared with Closed Innovation

Complexity	Brand Purchase Intention Significance Level	Brand Loyalty Significance Level
<b>Low (25<sup>th</sup> percentile)</b>	0.791	0.594
<b>Medium (50<sup>th</sup> percentile)</b>	0.004***	0.046**
<b>High (75<sup>th</sup> percentile)</b>	0.002***	0.013**

Table 9: Closed Innovation vs. Open Community: Conditional effects of the focal predictor at values of the moderator



Graph 1: Difference in Brand Purchase Intention between Closed Innovation and Open Community, depending on Perceived Complexity level



*Graph 2: Difference in Brand Loyalty between Closed Innovation and Open Community, depending on Perceived Complexity level*

<b>H2</b>	a. When Perceived Complexity is low, communication of consumer involvement has a positive impact on Customer-Based Brand Equity compared to the communication of a closed innovation process	<b>Rejected</b>
	b. When Perceived Complexity is high, communication of consumer involvement has a less positive impact on Customer-Based Brand Equity compared to the communication of a closed innovation process	<b>Partially supported</b>

The hypotheses concerning Perceived Expertise of the participants in the three co-creation scenarios compared to the organizations internal product developers were tested with a One-Way ANOVA test and a post-hoc Scheffe test to receive more detailed information about the comparison of the means (See Table 11). According to the results, there is a difference in means between the four groups ( $F(3, 129) = 7.70, p < 0.01$ ). Moreover, the post-hoc test shows that the participants of the Selective Community are perceived as having less expertise compared to the internal product developers, on a significance level of ten percent ( $p < 0.1$ ). The participants of the Open Community are also perceived to have less expertise compared to the internal product developers, on a one percent significance level ( $p < 0.01$ ). However, this study does not find any significant differences in Perceived Expertise of

participants between the Open Competition scenario and Closed Innovation scenario ( $p=0.390$ ), even though the mean for the Closed Innovation scenario still is the highest among the groups.

Hypotheses 3 a, b and c predict the professional product developers to be seen as having higher Perceived Expertise compared to the involved consumers in the three co-creation scenarios. The results show that this is significantly true compared to the participants of both the Selective Community and the Open Community. However, the difference in means is not significant compared to the Open Competition scenario. Thus, this study finds empirical support for H3a and H3c, but not for H3b which therefore is rejected.

Scenario	Expertise (SE)
<b>Closed Innovation</b>	5.38 (0.13)
<b>Selective Online Community</b>	4.76 (0.18)
<b>Open Competition</b>	4.93 (0.21)
<b>Open Online Community</b>	4.19 (0.19)
<b>Significance level</b>	0.000***

Table 10: Mean of Perceived Expertise, per scenario

I-J	Difference in Mean	Significance level
<b>Closed Innovation – Selective Online Community</b>	0.62*	0.095
<b>Closed Innovation – Open Competition</b>	0.44	0.390
<b>Closed Innovation – Open Online Community</b>	1.19***	0.000

Table 11: Mean comparison of Perceived Expertise, between closed and open scenarios

**H3** Compared to Closed Innovation, Perceived Expertise will be:

- a. lower in an Open Online Community
- b. lower in a Selective Online Community
- c. lower in an Open Competition

**Supported**  
**Rejected**  
**Supported**

In order to study the importance of Perceived Expertise of NPD participants, depending on the Perceived Complexity, for Customer-Based Brand Equity, Perceived Complexity was tested as a moderator of the relationship between Perceived Expertise and Customer-Based Brand Equity. Therefore, Model 1 in Hayes' Process add-in tool version 3.1 for SPSS was used. As Customer-Based Brand Equity consists of three variables, the test was conducted for each one of them.

The results show that the interaction effect is non-significant for both Brand Attitude ( $\Delta R^2=0.01$ ,  $F(1, 129)=1.96$ ,  $p=0.164$ ) and Brand Purchase Intention ( $\Delta R^2=0.00$ ,  $F(1, 128)=0.46$ ,  $p=0.4991$ ). This means complexity does not significantly moderate the relationship between expertise and these two

dependent variables. The interaction effect is, however, significant on a 10 percent significance level for Brand Loyalty ( $\Delta R^2=0.02$ ,  $F(1, 129)=3.45$ ,  $p<0.1$ ).

As the moderation of complexity is only significant on Brand Loyalty, further details on the moderation are shown for this dependent variable. In order to examine this significant moderation effect in greater detail, the conditional effects of the focal predictor at values of the moderator were studied (see Table 13). These results display that the moderation effect is only significant for medium ( $p<0.01$ ) and high ( $p<0.01$ ) Perceived Complexity. When complexity is perceived to be low, this study does not find support for a significant moderation effect ( $p=0.337$ ).

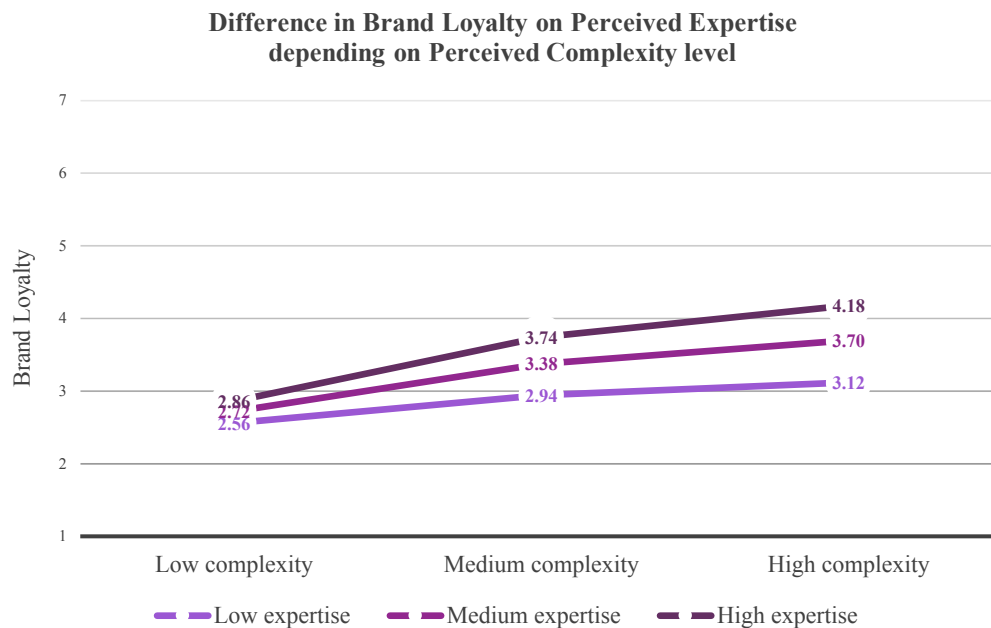
As hypothesis 4 predicts, and as the detailed results in Graph 3 show, high Perceived Expertise is desirable and favors Brand Loyalty when Perceived Complexity is high. When Perceived Complexity is low, the importance of expertise is of lesser extent. However, this effect is not significant for all Customer-Based Brand Equity variables. Therefore, H4 is only partially supported.

	Brand Attitude	Brand Purchase Intention	Brand Loyalty
Interaction effect	$p = 0.164$	$p = 0.499$	$p = 0.066^*$
$R^2$	0.22	0.10	0.24
$\Delta R^2$	0.01	0.00	0.02

Table 12: Expertise impact on Customer-Based Brand Equity with the influence of Perceived Complexity (N=133)

Complexity	Brand Loyalty Significance Level
Low (25 <sup>th</sup> percentile)	0.34
Medium (50 <sup>th</sup> percentile)	0.00
High (75 <sup>th</sup> percentile)	0.00

Table 13: Conditional effects of the focal predictor at values of the moderator



*Graph 3: Difference in Brand Loyalty on Perceived Expertise  
depending on Perceived Complexity level*

**H4** When Perceived Complexity is higher, Perceive Expertise has a stronger positive impact on Customer-Based Brand Equity compared to when Perceived Complexity is lower

**Partially supported**

#### 4.1.3. Perceived Similarity and Perceived Empowerment

In order to investigate the hypotheses concerning the level of Perceived Similarity between the consumer involvement scenarios and the Closed Innovation scenario, a One-Way ANOVA test was conducted between these groups. This statistical test was chosen since the comparison of means was between more than two groups (Newbold, Carlson & Thorne, 2012). Furthermore, the post-hoc Scheffe test was chosen in order to investigate the mean differences in greater detail. However, according to the ANOVA test, there are no significant differences between the means discovered ( $F(3, 129)=1.93, p=0.128$ ). In other words, no support is found for differences in means for Perceived Similarity between the groups. The Scheffe post-hoc test supports this result as well. Thus, none of the  $p$ -values for the comparison of means between the Closed Innovation and the different levels of consumer involvement groups are significant ( $p>0.1$ ) (see Table 14 and 15 for details).

Hypotheses 5 predict that non-participants should feel a higher Perceived Similarity to involved consumers in comparison with professional product developers. As no significant differences in means between the groups for Perceived Similarity are discovered, hypotheses 5 are rejected.



Scenario	Similarity Mean (SE)
<b>Closed Innovation</b>	3.98 (0.16)
<b>Selective Online Community</b>	3.74 (0.23)
<b>Open Competition</b>	3.92 (0.28)
<b>Open Online Community</b>	3.29 (0.21)
<b>Significance level</b>	0.128

Table 14: Mean of Perceived Similarity, per scenario

I-J	Difference in Mean	Significance level
<b>Closed Innovation – Selective Online Community</b>	0.24	0.890
<b>Closed Innovation – Open Competition</b>	0.06	0.998
<b>Closed Innovation – Open Online Community</b>	0.69	0.187

Table 15: Mean comparison of Perceived Similarity, between closed and open scenarios

**H5** Compared to Closed Innovation, Perceived Similarity will be:

- a. higher in an Open Online Community
- b. higher in a Selective Online Community
- c. higher in an Open Competition

**Rejected**  
**Rejected**  
**Rejected**

To be able to test hypothesis 6, regarding similarity and Customer-Based Brand Equity, the sample is first of all divided into three groups; low Perceived Similarity (values < 4), medium Perceived Similarity (value = 4) and high Perceived Similarity (values > 4). The comparison of means in the Customer-Based Brand Equity variables was conducted between the groups of low Perceived Similarity and high Perceived Similarity. As the comparison was made between two groups, an independent sample t-test was conducted for each one of the dependent variables (Newbold, Carlson & Thorne, 2012). Levene's test indicated equal variances for all three dependent variables (see Table 16), since  $p > 0.05$  for each one of the investigated variables.

Furthermore, the results show a significant difference for all of the dependent variables between the compared groups on a one percent significance level ( $p < 0.01$ ) (see Table 16). The results are aligned with hypothesis 6, which predicts that the means of the dependent variables are significantly higher for the non-participants who feel more similar to the ideator compared to the non-participants who feel less similar. Hypothesis 6 is therefore empirically supported.

	Brand Attitude (SE)	Brand Purchase Intention (SE)	Brand Loyalty (SE)
Low Perceived Similarity (N= 68)	5.16 (0.12)	3.54 (0.20)	2.79 (0.15)
High Perceived Similarity (N= 54)	5.86 (0.13)	4.59 (0.22)	3.92 (0.17)
Levene's test for equality of variances	$p=0.394$	$p=0.434$	$p=0.961$
t	-3.91	-3.58	-5.12
df	120	119	120
Significance level	0.000***	0.001**	0.000***

Table 16: Independent Sample t-test of high versus low Perceived Similarity on Customer-Based Brand Equity items

**H6** A higher Perceived Similarity to the ideator will lead to a higher level of Customer-Based Brand Equity **Supported**

In order to test the hypotheses regarding the predicted difference in Perceived Empowerment among the consumer involvement scenarios compared to the Closed Innovation scenario, a One-Way ANOVA test was conducted, as the number of groups exceeded two (Newbold, Carlson & Thorne, 2012). Further, in order to receive more details regarding the comparison between the groups, a post-hoc Scheffe test was also conducted. The results reveal that there are significant differences between the groups ( $F(3, 129)=5.94, p<0.01$ ). The post-hoc test is furthermore in line with what the hypotheses predicted. For every one of the three groups of consumer involvement, the non-participants have a significantly higher Perceived Empowerment compared to non-participants exposed to the Closed Innovation scenario, on a five percent significance level (see Table 17 and 18). Thus, hypotheses 7a, 7b, and 7c are empirically supported in this study.

Scenario	Empowerment Mean (SE)
Closed Innovation	3.06 (0.23)
Selective Online Community	4.06 (0.26)
Open Competition	4.41 (0.23)
Open Online Community	4.34 (0.30)
Significance level	0.001**

Table 17: Mean of Perceived Empowerment, per scenario

I-J	Difference in Mean	Significance level
Closed Innovation – Selective Online Community	-1.00	0.049
Closed Innovation – Open Competition	-1.34	0.005
Closed Innovation – Open Online Community	-1.27	0.008

Table 18: Mean comparison of Perceived Empowerment, between closed and open scenarios

**H7** Compared to Closed Innovation, non-participants' Perceived Empowerment will be:

- higher in an Open Online Community
- higher in a Selective Online Community
- higher in an Open Competition

**Supported**  
**Supported**  
**Supported**

In order to test the moderating effect of similarity on the relationship between empowerment and the Customer-Based Brand Equity, Model 1 in Hayes' Process version 3.1 add-in tool for SPSS was used.

The results show that the interaction effect is non-significant for neither Brand Attitude ( $\Delta R^2=0.01$ ,  $F(1, 129)=0.88$ ,  $p>0.1$ ) nor Brand Purchase Intention ( $\Delta R^2=0.00$ ,  $F(1, 128)=0.57$ ,  $p>0.1$ ). This means that Perceived Similarity does not have a moderating effect on the relationship between Perceived Empowerment and these two dependent variables. Therefore, no additional details about these relationships are presented in this section. However, the study finds a significant interaction effect of Perceived Similarity as a moderator of the relationship between Perceived Empowerment and Brand Loyalty ( $\Delta R^2=0.02$ ,  $F(1, 129)=4.10$ ,  $p<0.05$ ). In order to investigate this relationship further, the conditional effects of the focal predictor at values of the moderator are studied (see Table 20).

These results display that when Perceived Similarity is low the moderation effect is not significant ( $p>0.1$ ). However, when Perceived Similarity is of medium and high level, the moderation effect is significant on a one percent significance level ( $p<0.01$ ). In order to study the relationships and slopes in greater detail, they are shown visually in Graph 4. In the diagram, you can discern that Perceived Similarity increases the effect Perceived Empowerment have on Brand Loyalty.

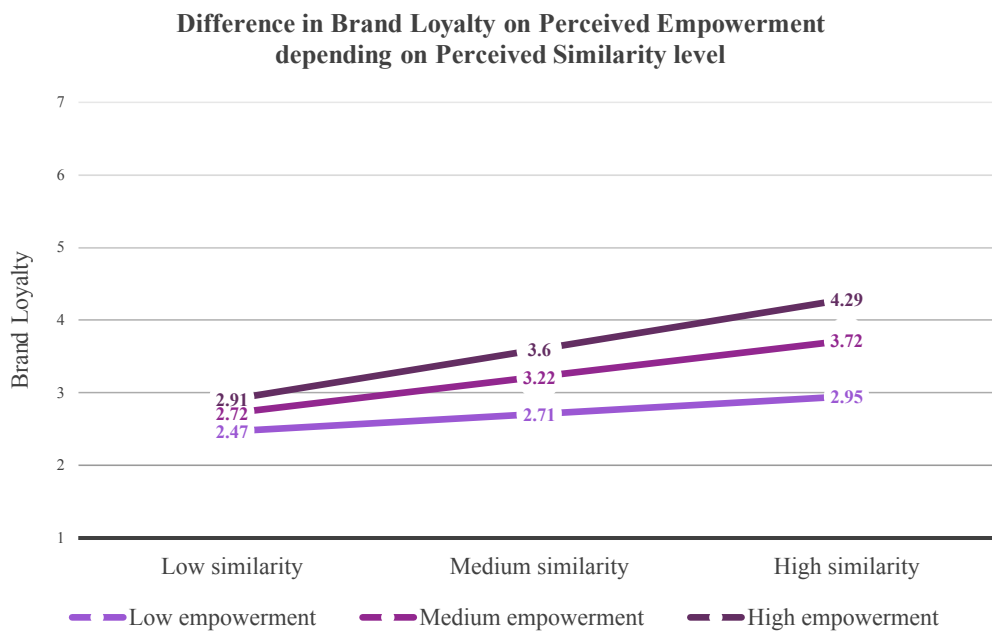
Hypothesis 8 predicts that a high level of Perceived Similarity will have a positive impact on the relationship between Perceived Empowerment and Customer-Based Brand Equity. The results display, as the hypothesis suggests, that Perceived Similarity to involved consumers have a positive impact on the relationship between Perceived Empowerment and Brand Loyalty. This implies that the empowerment non-participating consumers feel from the communication of consumer co-creation affects Brand Loyalty even more positively if the participants also are perceived to be similar. However, no significant moderation effect of Perceived Similarity are found on the relationship between Perceived Empowerment and Brand Attitude or Brand Purchase Intention. Therefore, H8 is only considered partially supported in this study.

	Brand Attitude	Brand Purchase Intention	Brand Loyalty
Interaction effect	$p=0.350$	$p=0.450$	$p=0.045^{**}$
$R^2$	0.21	0.18	0.30
$\Delta R^2$	0.01	0.00	0.02
F	(1, 129)= 0.88	(1, 128)= 0.57	(1, 129)= 4.10

Table 19: Perceived Empowerment's effect on Customer-Based Brand Equity on the impact of Perceived Similarity

Similarity	Brand Loyalty Significance Level
Low (25 <sup>th</sup> percentile)	0.178
Medium (50 <sup>th</sup> percentile)	0.000
High (75 <sup>th</sup> percentile)	0.000

Table 20: Conditional effects of the focal predictor at values of the moderator



Graph 4: Difference in Brand Loyalty on Perceived Empowerment depending on Perceived Similarity level

**H8** When Perceived Similarity is higher, Perceived Empowerment has a stronger positive impact on Customer-Based Brand Equity compared to when Perceived Similarity is lower.

**Partially supported**

A summary of the results (Table 21) as well as an illustration (Figure 5) of the tested relationships are included below.

H1	Compared to Closed Innovation, Customer-Based Brand Equity will be: a. higher in an Open Online Community b. higher in a Selective Online Community c. higher in an Open Competition	<b>Rejected</b> <b>Rejected</b> <b>Rejected</b>
H2	a. When Perceived Complexity is low, communication of consumer involvement has a positive impact on Customer-Based Brand Equity compared to the communication of a closed innovation process  b. When Perceived Complexity is high, communication of consumer involvement has a less positive impact on Customer-Based Brand Equity compared to the communication of a closed innovation process	<b>Rejected</b>  <b>Partially supported</b>
H3	Compared to Closed Innovation, Perceived Expertise will be: a. lower in an Open Online Community b. lower in a Selective Online Community c. lower in an Open Competition	<b>Supported</b> <b>Rejected</b> <b>Supported</b>
H4	When Perceived Complexity is higher, Perceive Expertise has a stronger positive impact on Customer-Based Brand Equity compared to when Perceived Complexity is lower	<b>Partially supported</b>
H5	Compared to Closed Innovation, Perceived Similarity will be: a. higher in an Open Online Community b. higher in a Selective Online Community c. higher in an Open Competition	<b>Rejected</b> <b>Rejected</b> <b>Rejected</b>
H6	A higher Perceived Similarity to the ideator will lead to a higher level of Customer-Based Brand Equity	<b>Supported</b>
H7	Compared to Closed Innovation, Perceived Empowerment will be: a. higher in an Open Online Community b. higher in a Selective Online Community c. higher in an Open Competition	<b>Supported</b> <b>Supported</b> <b>Supported</b>
H8	When Perceived Similarity is higher, Perceived Empowerment has a stronger positive impact on Customer-Based Brand Equity compared to when Perceived Similarity is lower	<b>Partially supported</b>

Table 21: Summary of results of hypothesis testing

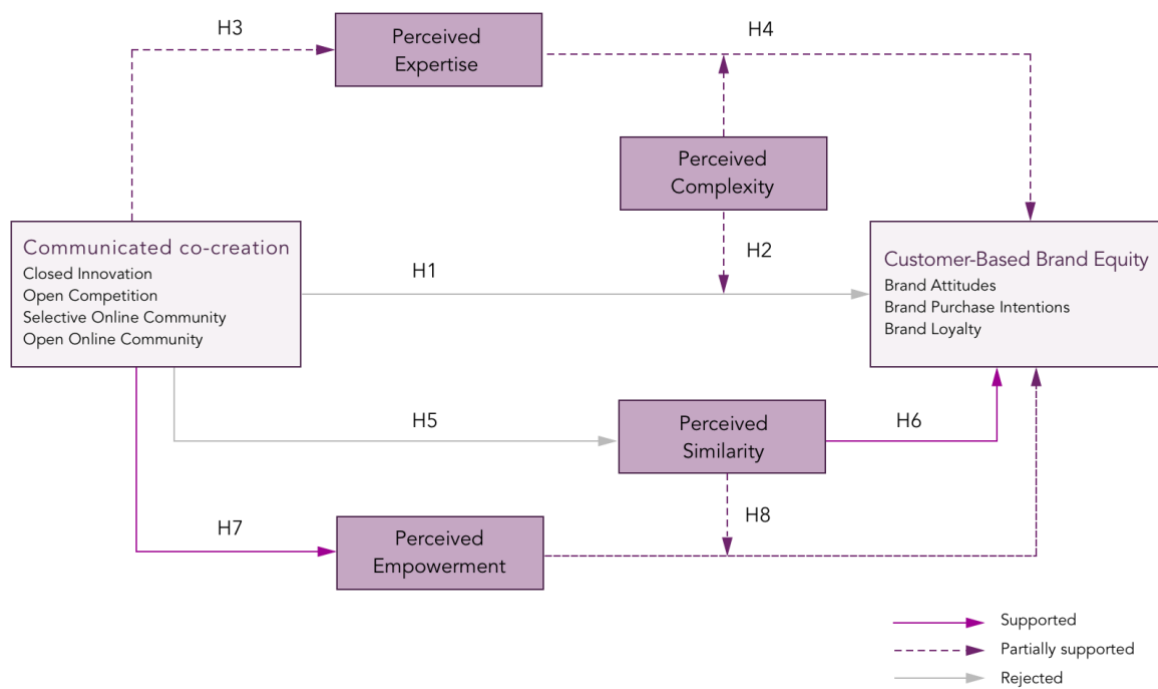


Figure 5: Illustration of tested hypotheses

## 5. Discussion

*Based on the theoretical foundation developed in Chapter 2, this chapter discusses the results of the study presented, and its implications. Firstly, the relationship between consumer co-creation efforts and Customer-Based Brand Equity is discussed. Thereafter, the signaling effects are used to explain the dynamics of the investigated phenomenon.*

### 5.1. Different Consumer Co-creation Efforts Impact on Customer-Based Brand Equity

The results of the study revealed few significant differences in CBBE between the three different consumer involvement scenarios, in comparison with the Closed Innovation scenario. This suggests no noteworthy differences between the co-creation initiatives or level of openness a company chooses. The results of this study are therefore somewhat contradicting to what several scholars previously have found support for (e.g., Fuchs, Schreier, 2011; van Dijk, Antonides & Schillewaert, 2014). This is interesting because, most studies on non-participants' responses to communicated co-creation so far, have shown mainly positive effects on for example brand attitudes, trust, and loyalty (e.g., Sawhney, Verona & Prandelli, 2005; Füller, 2010; Fuchs & Schreier, 2011). However, it might not be that straightforward. It seems as the relationship studied is more complex than consumer involvement merely enhancing brand perceptions and brand equity at large. Additionally, it appears that this relationship encompasses more factors. Henceforth, the thesis will further discuss potential explanations for this contradiction and intricacy. The observed differences between the groups mostly concern the Open Community. As presented, the signaling variables are included to be able to explain the dynamics of this relationship. To explore these variables further, the next section will dive deeper into the results and its implications.

#### 5.1.1. Perceived Expertise and Perceived Complexity: Impact on the Relationship between Co-creation Efforts and Customer-Based Brand Equity

The results show a wide range in people's perception of complexity, regardless of exposed scenario. This is interesting, as previous experiments that investigate this variable usually examine different products with predefined levels of complexity (e.g., Schreier, Fuchs & Dahl, 2012; Liljedal, 2016a). This study instead demonstrates that the same product can be perceived as of both high and low complexity. Prior research suggests that an open innovation strategy including co-creation initiatives might not be a good idea for complex products (e.g., Schreier, Fuchs & Dahl, 2012; Liljedal, 2016a). A closed innovation process is instead preferred, as non-participants perceive an average consumer to not have the same ability and knowledge as a professional in the field (Fuchs & Schreier, 2011). Therefore, the wide range in Perceived Complexity of the product might be a reason why no significant differences in CBBE are found between the three different consumer involvement scenarios

and the Closed Innovation scenario. The study confirms this by partially supporting Perceived Complexity as a moderator, in favor of the Closed Innovation scenario during high Perceived Complexity conditions.

Another potential explanation for the differences in Perceived Complexity is that consumers are divided into different segments. For example, if high quality coffee is important for the consumer, the participant expertise could be more important. If a consumer instead sees coffee as a highly commoditized good, this factor might not matter as much. Consumers of high-quality coffee might also be more interested in coffee, and hence, more knowledgeable about its development process in general, and therefore view the development of the product as more complex. In accordance with Fuchs et al. (2013), co-creation in the luxury segment has a negative effect on the brand. This implies that, if the co-created coffee is perceived as luxurious by the non-participant, the perceptions of the brand will not be as favorable compared to if they perceive it as a commodity good. Luxurious products generally carry premium prices (Jobber & Ellis-Chadwick, 2012). As CBBE increases with the level of complexity perceived, companies like Koppar can portray their products as more complex. This would enable them to capture a higher end of the market and to benefit from premium prices. However, there could be reasons to not communicate the co-creation at all, if the assumed effect on CBBE is unfavorable. Alternatively, co-creation can be used, but having the internal developers integrated with the co-creating consumers to a higher extent during the process. This is a way of reaping the benefits of consumer involvement, while keeping the impression of expertise internal developers signal.

Complexity is moreover connected to the Perceived Expertise of the NPD participants. Thompson & Malaviya (2013) state that the absence of descriptions of participants increases skepticism about the participants' ability to co-create. Moreover, co-creation with consumers can be seen as inefficient because of the participants' lack of knowledge or expertise (Schrader & Gopfert, 1998). In terms of Brand Loyalty, the importance of perceived participant expertise increases with a higher Perceived Complexity in this study. In other words, this indicates that the more complex a product is, the more important Perceived Expertise of the ideator is. In accordance with Liljedal (2016a), Perceived Expertise is a reason why closed innovation processes are preferred for complex products. Moreover, Fuchs et al. (2013) suggest that the status and legitimacy of co-creation participants are important in the fashion industry for non-participants' approval. Connecting to this, expertise is an important signaling factor in the creation of high-quality coffee, which suggests that a Selective Community consisting of, and described as, experts in communication favors the brand. Further, providing information about the ability of co-creating consumers is a way to enhance the non-participating consumers' perceptions (Liljedal, 2016a). However, several different attributes, in addition to the expertise of participants, can be of importance in the communication of high-quality coffee products.



This furthermore implies that the selection and description of participants is of importance in order to create positive brand evaluations. However, further research should be conducted in order to draw conclusions about which attributes of the participants are desired.

The communication of the Open Community results in a lower Brand Purchase Intention compared to the Closed Innovation scenario, a result that is in fact contradicting to the hypothesis. A possible explanation can be the perceived lack of expertise. Perceived Expertise is shown to be significantly lower compared to the Closed Innovation scenario, which also supports the reasoning that consumers are considered less experienced and competent, compared to the internal product developers (Moreau & Herd, 2009). In accordance with the hypothesized relationship between Perceived Expertise and Perceived Complexity, the higher the Perceived Complexity is, the more the Closed Innovation scenario favors some of the dimensions of CBBE. However, it is interesting to further understand why the results regarding the Open Online Community differ from the results of the other open innovation initiatives.

As people tend to search for cues to solve problems under asymmetric information (Kirmani & Rao, 2000), only knowing about the medium used for co-creation might create a perception of what type of people would be a part of those. Based on non-participants' experience and preconceptions of, for example, Facebook group members or an innovation contest participant, they might create an image of who the participant is. This created image could be a reason why Perceived Expertise also differs between the Open Online Community and the Open Competition scenario, compared to the Closed Innovation scenario.

According to Piller, Ihl & Vossen (2010) the main difference between co-creation through an *idea contest* and *communities of creation for idea generation* as the amount of people involved in the idea generation. Commonly it is a single consumer participating individually in an open contest, while communities consist of a group of people who generate and develop ideas together. Using so-called collective intelligence, online communities can exploit and develop shared knowledge making them able to perform better than the individuals alone (Luo et al., 2009). Within NPD, collective intelligence has proven to be able to ideate suggestions of equivalent quality as field experts (Mladenow, Bauer & Strauss, 2014). It is therefore interesting that the Open Online Community performed worse on Perceived Expertise in reference to the Open Competition. Further, Malone, Laubacher & Dellarocas (2010) emphasize the incentives as a building block of collective intelligence. Competitions often use financial incentives (Piller, Ihl & Vossen, 2010; Adamczyk, Bullinger & Möslin, 2012). An Online Community, as the one Koppar considers creating with its most engaged customers, is expected to instead induce intrinsic motivation in the form of enjoyment and enthusiasm. As Gebauer, Füller & Pezzeri (2013) mean that the genuineness of the co-creation effort is important in order to create positive perceptions, this aspect is interesting to consider.

### 5.1.2. Perceived Similarity and Perceived Empowerment: Impact on the Relationship between Co-creation Efforts and Customer-Based Brand Equity

This thesis shows that the non-participants' Perceived Similarity to the participants in an NPD process affects CBBE positively. This was true for all of the three measured dimensions of the concept. This finding is indeed aligned with previous findings in this area (e.g., Thompson & Malaviya, 2013; Dahl, Fuchs & Schreier, 2014). As Dahl, Fuchs & Schreier (2014) suggest, this is explained by the perceived identification with the participants. According to Cialdini (2017), non-participants will have a higher level of liking and trust toward individuals they find similar to themselves, which also supports this result.

However, the Perceived Similarity toward the involved consumers compared to the internal product developers is not significantly higher in this study. This implies that the communication of the consumer involvement does not engender the identification mechanism. Social identification is crucial for the non-participants' sense of belonging with a brand's participating user community. The feeling of belonging is dependent on the extent to which one feels similar to the members of the community (Tajfel, 1972). Thus, when Perceived Similarity is low, non-participants do not identify with nor feel social collectivity toward the community, as demonstrated in the results.

Thompson & Malaviya (2013) suggest that the absence of social identification can devolve upon the lack of a detailed description of the participating consumers. This indicates that communication of merely consumer involvement, as suggested by Nishikawa et al. (2017) to improve market performance of a product, is not enough in order for non-participants to identify with the participant. Instead, this implies an importance of describing the participants as similar to the target audience. Prior research has indicated that images are even more influential than solely a description (Nelson, Reed & Walling, 1976; Childers & Houston, 1984; Unnava & Burnkrant, 1991). Hence, pictures of the participants can be included in the communication of the co-creation initiative apart from using written descriptions, to enhance identification. However, it is of high importance that the participants depicted are a part of the target audience's in-group or aspirational group (e.g., Escalas, Bettman, 2003; White & Dahl, 2006; 2007). Thus, the Perceived Similarity to the target audience is highly important.

Connecting back to the discovered differences between the Open Online Community and the Open Competition, similarity can be used to further explain this dynamic. Anyone is free to participate in an Open Online Community; thus, it is reasonable that skepticism toward this group's ability occurs in accordance with Thompson & Malaviya (2013). A competition can theoretically consist of the exact same people, as it is also open for everyone to participate in. Why the outcome between these two scenarios is not more aligned is therefore interesting to further discover. Potentially, this is due to the

non-participants' perceived ability to identify with the participant. Normally, in a competition type open innovation, and in the Open Competition survey scenario, the medium of communication is the company website (Adamczyk, Bullinger & Möslin, 2012). This can signal that the company is clearly behind the message, and it is not as clear who the co-creating consumer is. In an Online Community, however, there are normally profiles with images of the people behind the messages and information about them. Thus, Facebook as a medium of communication, can be seen as carrying more information about the participating consumers (Sheer, 2011; Lee & Lee, 2018), hence, easier to identify with in line with Thompson, & Malaviya (2013).

According to Cialdini (2017) humans trust people that they feel similar to and that they can identify with, which would argue that the communication medium matters. However, the fact that Facebook as a medium carries a large extent of information might not be solely advantageous. It also means that potentially undesirable information can be disseminated (e.g., Gebauer, Füller & Pezzeri, 2013). It is normally easier for a company to control the content and information shared on its own webpage. Media Richness Theory can thus explain this duality and why the Open Community scenario performed worse on CBBE in reference to the Open Competition scenario.

Cialdini et al. (1976) suggest that the identification mechanism is the reason why values and achievements, like co-creation, transfer between people. For example, consumer involvement in NPD processes is shown to increase empowerment, also for non-participating consumers. In this study, Perceived Empowerment was significantly higher in every one of the consumer involvement scenarios, compared to in the Closed Innovation scenario. This is especially interesting as it measures non-participant empowerment, who did not have the power at all to influence the design of the coffee. Non-participants exposed to co-creation scenarios was in this study shown to feel empowered, even though identification was quite low, and not significantly different compared to professionals. Further, this means that the non-participants, by proxy feel like they can impact the choices the company makes.

However, the results of this study are not aligned to prior research regarding the impact of co-creation communication, suggesting empowerment to have a positive impact on non-participants' attitudes (Füller et al., 2009), brand perceptions (Fuchs & Schreier, 2011), buying behaviors (Acar & Puntoni, 2016) and brand loyalty (Coelho, Rita & Santos, 2018). This indicates factors, other than empowerment, are of greater importance concerning the impact on CBBE. As presented in the study, Perceived Similarity has a moderating effect on the relationship between Perceived Empowerment and one of the dimensions of CBBE. When the feeling of empowerment is high, a higher Perceived Similarity positively affects Brand Loyalty. As Dahl, Fuchs & Schreier (2014) suggest, when the Perceived Similarity is higher, identification is stronger, which, in its turn, stimulates the Perceived

Empowerment. This implies that co-creation that increases empowerment is beneficial, as long as the non-participant can identify with the participant.

## 6. Conclusions

*This chapter ties the whole thesis together by looking at explicit conclusions that are drawn from the study, and how these can help explain the identified research gap.*

### 6.1. Conclusions

This research journey began with the fascination of the intersection between Innovation Management and Marketing Management and what dynamics play part in this relationship. More specifically, an interest in new product development and consumer involvement, and how these can have an impact on consumer perceptions of the brand initiated the study. However, research has not extensively examined the comparison between several different types of open co-creation initiatives. Further, the external perspective of the non-participating consumers' perceptions of communicated co-creation has not been exhaustively studied. Consequently, this thesis aimed to answer the following questions:

- 1. How are non-participating consumers' perceptions of a brand affected by the communication of different types of co-creation efforts?*
- 2. How do perceptions about the participating consumers and the co-created product affect this relationship?*

The empirical results from this study will further contribute by answering the research questions and, hence, explicate the relationship between the communication of different types of co-creation efforts and its effect on Customer-Based Brand Equity.

#### 6.1.1. The Impact on Customer-Based Brand Equity from different Consumer Co-creation Efforts

Firstly, this study can conclude that while prior research generally has indicated that co-creation has a positive effect on Customer-Based Brand Equity, there are very few significant differences detected in this study between the three tested types of co-creation efforts, compared to a Closed Innovation strategy. The only observed difference in CBBE is found between the Closed Innovation and the Open Online Community, where results show that non-participants are less willing to purchase the product when an Open Online Community is the ideating source compared to professionals. This implies, firstly, that different types of co-creation do not majorly affect perceptions of a brand. Secondly, it also implies that the relationship between communication of co-creation and CBBE is of more complex nature and that there are other factors that affect the relationship.

Furthermore, the study shows that the Perceived Complexity of the same product can differ vastly among consumers, regardless of exposed scenario. This implies that other factors than the description

of the product seem to have an effect on Perceived Complexity. In order to favor Brand Loyalty, there is an increasing need for the ideator to be perceived as knowledgeable, when Perceived Complexity rises. This suggests that the communication of a co-creation effort should be adapted, so that the product is perceived as less complex if consumers have co-created it. Alternatively, participant expertise can be emphasized when the product is perceived as complex.

Further, the perception of the ideator is an important factor impacting the non-participant's attitude toward the co-creation initiative. A higher Perceived Similarity is seen to positively affect CBBE, in accordance with the hypothesis. However, there are no significant differences in Perceived Similarity between the groups, which indicates that the lack of ideator description has an impact on this relationship. Thus, communication only stating that a product is customer-generated is not enough in order for non-participants to activate the social identification mechanism. Hence, actions to improve social identification are likely to affect the relationship positively. Moreover, the study supports that even non-participants feel more empowered when exposed to different types of co-creation. However, merely this feeling does not seem to impact CBBE in any significant manner. On the other hand, in combination with Perceived Similarity, it has a significant effect on Brand Loyalty. Again, this highlights the importance of involving consumers who are similar to the target audience of the communication.

To sum up, consumer co-creation cannot just be deemed as good. On the contrary, the choice of consumer co-creation strategy appears to be more complex than that. This thesis shows that perceptions of similarity to, and expertise of co-creation participants, the empowerment their involvement signals, and the complexity of the product itself, all affect the relationship between communication of different types of co-creation efforts and Customer-Based Brand Equity.

## 7. Contributions and Outlook

*This chapter presents the theoretical as well as the practical contributions added by this study. Moreover, limitations due to the scope and time frame of the study are presented, as well as an outlook on suggested further research topics.*

### 7.1 Theoretical Contributions

In line with the above conclusion, the thesis provides an important contribution to the literature on the intersection of Innovation Management and Marketing Management. More specifically, it adds to the research on communication effects of co-creation initiatives. The thesis' main contribution lies in explicating the concept of non-participating consumers as a stakeholder in co-creation. The thesis concludes that the CBBE benefits from participating consumers being perceived as similar by the non-participants. Moreover, it confirms that empowerment is transferred to non-participating consumers by communication of co-creation efforts. Furthermore, the study shows that Perceived Complexity of the product differ among non-participants. When Perceived Complexity is high, the results of the study emphasize the importance of non-participants to perceive the participants as knowledgeable. Hence, this adds to the understanding of the dynamic between Perceived Complexity and Perceived Expertise.

Additionally, the study shows how interrelations between non-participants' perceptions of participants, the co-created process, and the product affect the brand perceptions. By including Signaling Theory, the study further advances the understanding of the relationship and adds explanatory value to consumer responses to consumer co-creation efforts. Hence, the thesis contributes by providing a more nuanced picture of the co-creation efforts' impact on brand evaluations by conducting research on non-participants' responses to several different online co-creation initiatives. As it will be further discussed in section 7.3, the findings of the thesis are also useful as inspiration for scholars who want to continue to explore this research area further.

### 7.2. Practical Contributions

Besides the theoretical contributions, the study provides notable implications to innovation management, and marketing communications practitioners. The results of this study can be used to guide practitioners on how to conduct and communicate co-creation efforts. As Gebauer, Füller & Pezzeri (2013) and Piyathananan et al. (2018) suggest, negative feelings toward a co-creation effort can have devastating consequences for a brand. Similarly, this study shows that communication of co-creation efforts is not always beneficial. Hence, it is crucial to carefully consider co-creation initiatives and to develop them with the companies' customers and capacities in mind.

Innovation Management and NPD practitioners should be mindful in the development of co-creation initiatives, due to the duality in the effect the methods can have on the non-participants' perceptions, and consequently CBBE. Co-creation can, as shown in this study, bring benefits in terms of improved brand perceptions. However, the implementation of co-creation needs to suit the overall aim and broader strategy of the company, for example in terms of positioning of products and services. By knowing your target audience and their characteristics, the strategy can be adapted to these which leads to a more successful implementation of co-creation strategies. Moreover, the quality and exclusiveness of the products and services affect the choice of co-creation strategy, or whether to use co-creation at all. There is no universal co-creation initiative that is optimal, this instead depends on the organization and its offering. The co-creation medium affects the perceptions of non-participating consumers, but not as much as one might expect.

Perceived Complexity is shown to vary for the same product, which demonstrates an interesting dynamic between complexity and expertise. This is something managers need to take into consideration. Marketing communication practitioners should put emphasis on presenting the complexity of the product in the communication of the co-creation effort. As an illustration, if the organization uses a completely Open Online Community type of co-creation, there is value in making the product seem less complex. Alternatively, if the product is highly complex, co-creating consumers can be displayed as competent and able, which indicates that the selection of participants become more important. There is even a benefit in not communicating the co-creation at all in this situation. For companies like Koppar, communicating to people that see coffee as complex and luxurious is beneficial, as the study indicates that these consumers will value the brand higher and will be more willing to purchase it. Additionally, the perception of the ideator is important. Practitioners should understand their communicative target audience and adapt co-creation communication to them. By portraying the participant as similar to the target audience of the communication, practitioners can increase the Perceived Similarity, and hence the Perceived Empowerment, to enhance Customer-Based Brand Equity.

### 7.3. Limitations

The focus of this thesis is to investigate how the non-participating consumers' perceptions of the consumers involved in the co-creation, the co-creation process and of the product, can affect the brand perceptions, and ultimately the Customer-Based Brand Equity. However, there are limitations to this study that had to be made due to the scope and the timeframe of the thesis.



### 7.3.1. Limitations to Generalizability and Transferability

There are some aspects of the study that can reduce the generalizability of the results. In terms of the methodological aspect, the use of a convenience sample, meaning the respondents did not properly represent the target population, affected the validity of the results. An alternative would have been to randomly distribute the survey, for example in public places. However, this is both time-consuming and can be seen as intrusive from the respondents' point of view. By sending the survey directly to the authors' network through online mediums such as Facebook, likeliness to receive answers was deemed to be higher. Moreover, with the used method, the respondents could choose if and when to enter the webpage and answer the survey. Furthermore, the study only takes one product category into consideration, namely coffee. Therefore, the study might not be transferable to other sectors. Additionally, the study only investigates the Swedish market. For the scope of the study, this delimitation was essential to make. The studied brand Koppar is relatively unknown, hence, for more known brands, results might differ. Consequently, it would be interesting to further explore other products and brands to examine if the results of this study are constant in other settings and geographical markets.

All these factors make the results of this study less generalizable and transferable to other contexts and industries. It is important to clearly address this, and that the results might only be applicable to this particular product category, industry and geographical market.

### 7.3.2. Limitations in the Magnitude of the Study

When it comes to the magnitude of the study there are further limitations. Firstly, the thesis compares three different consumer co-creation strategies as well as a Closed Innovation strategy. These were chosen based on their previous occurrence in co-creation research and practice. However, the thesis acknowledges that other types of co-creation initiatives exist. Additional investigations of these would be interesting, to further compare and explain the effect of communicated co-creation. Furthermore, there was no clear definition of complexity in the survey, and this variable was not explicitly manipulated. Therefore, the variations in complexity might be affected by different views on what complexity means. It would be of interest to further explore perceptions of complexity in order to investigate this variation.

Furthermore, the description of the participants in the survey was short and somewhat inadequate. Hence, the absence of detailed descriptions might have affected the results of the study. The description was reduced to keep the scenario description relatively short, keeping the attention of the respondent. The alternative would have been to use a more detailed description, which could lead to a decline in the respondents' level of attention, affecting the accuracy of their answers. Lastly, the study acknowledges that there are additional signaling factors that relate to this phenomenon of co-creation

communication. However, they are outside of the scope of this thesis and therefore not considered. By this, potential aspects that could help explain the results of the studies have been excluded.

These limitations are a result of a restricted scope of the study, due to research conditions. However, the delimitations made in this study provide potential for further research topics to be discovered.

## 7.4. Suggestions for Further Research

Firstly, as the identified knowledge gap indicates a need for further studies within the research area, this thesis hopes to inspire scholars to continue to advance the understandings of the phenomenon and its intricacy. The thesis investigates non-participants' responses to three different co-creation efforts. As it exists additional co-creation methods, these would be interesting to examine in further investigations within the research area. Further, the thesis is delimited to solely study which signaling factors are important in the fast-moving consumer goods sector, more specifically within the coffee roasting industry in Sweden. It is therefore of interest to replicate the study for other geographical markets, as well as for other product categories, and in other industries, to examine whether the included signaling factors are generalizable or industry specific. Supplementary signaling effects that can explain the studied relationship can further be of interest to discover. Furthermore, as the study design is adapted and inspired by an unknown brand, further studies including well-known brands would also be of interest.

Furthermore, a key finding of this thesis is the fact that the same product widely differed in Perceived Complexity. Thus, there might also be other products that are not crystal clear, from a consumer point of view, in terms of complexity perception. Prior research has often already distinguished between complex and non-complex products, for example in the definitions given in the survey. Hence, it would be interesting to advance the understandings of complexity perceptions and whether the Perceived Complexity can, to some extent, be managed. This would be highly relevant in a co-creation context as well, as Perceived Complexity is indicated to have an impact on Customer-Based Brand Equity.

As discussed, the results of the study might have been affected by the absence of participant descriptions. In further research, it would, therefore, be interesting to examine how the use of different descriptions or pictures of participants affects the perceptions of co-creation communication. For example, there is an interest in examining different attributes communicated to understand what aspects are important for co-creation communication. Moreover, a topic that would be intriguing to discover in relation to co-creation communication is the perception of the medium used during the virtual co-creation process. Moreover, further investigating the perceptions of participants in these media can add to the research area. Qualitative research exploring if perceptions of these participants

differ between media or if it implies different motives of the company, is also an interesting angle to study. It would be helpful in explaining, for instance, the detected difference in participant perceptions between the Open Online Community and the Open Competition.

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# Appendices

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### Example of manipulation: Open Online Community scenario

You are looking for a new coffee to brighten your mornings. Imagine that you find Koppar, a coffee roastery that roasts the coffee beans and then sends them directly to your house, just the way you like it.

You continue reading and find out Koppar is a coffee roastery started by Fredrik Gustafsson in 2015. All the coffee they sell is ecological and classified as Specialty Coffee. As the coffee beans are roasted days before they arrive to you, they are as freshly roasted as possible making flavors and aromas present themselves in a unique way.

Below you can see a picture of Koppar's newest addition to their product range; No6 Mustig, a dark roast coffee. The blend contains ecological arabica beans from Indonesia and Central America. Together they fill your cup with a well-balanced and full-bodied coffee with a pleasant aftertaste.

#### *Open Online Community scenario:*

The new coffee was developed on the initiative of and in collaboration with consumers through a Facebook group, open for everyone to join. In this group, members can discuss and bounce ideas about new products and roasts. No6 Mustig was developed as the members of this group had a wish of adding a more darkly roasted blend to the product range.



*Appendix 1: Example of manipulation, Open Online Community scenario*

### Scenario descriptions

Scenario	Description
Closed	The new coffee was developed on the initiative of Fredrik and his product development team, as there, according to them, was no sufficiently dark roasted coffee in their assortment.
Selective Online Community	The new coffee was developed on the initiative of and in collaboration with Koppar's ambassadors; a selected group of their most engaged customers. These customers have been added to a Facebook group by Fredrik himself, where they can discuss and bounce ideas about new products and roasts. No6 Mustig was developed as the ambassadors had a wish of adding a more darkly roasted blend to the product range.
Open Online Community	The new coffee was developed on the initiative of and in collaboration with consumers through a Facebook group, open for everyone to join. In this group, members can discuss and bounce ideas about new products and roasts. No6 Mustig was developed as the members of this group had a wish of adding a more darkly roasted blend to the product range.
Open Competition	The new coffee was developed when Koppar's customers started asking for a new coffee. Koppar then launched a competition where anyone that wanted could take part and suggest what type of coffee they would like Koppar to make. In a voting, open for everyone to participate in, No6 Mustig was then voted as the winning suggestion.

*Appendix 2: Scenario manipulations presented in the questionnaire*

### Manipulation Check

On whose initiative was Koppar's new product No6 Mustig created?

- ☐ Product developer at Koppar (1)
- ☐ A group of selected, committed customers (in a Facebook group) (2)
- ☐ Consumers (competition, open for anyone) (3)
- ☐ Consumers (Facebook group, open for anyone) (4)
- ☐ Do not know (5)

*Appendix 3: Manipulation check question*

Scenario	% correct answers (n)
<b>Closed Innovation</b>	83.30% (30)
<b>Selective Online Community</b>	75.00% (30)
<b>Open Competition</b>	87.10% (31)
<b>Open Online Community</b>	70.00% (30)

*Appendix 4: Pre-study manipulation check, percentage of correct answers per scenario*

## Presentation of Questionnaire Items

### Presentation of Variables and Items

Variable (Source)	Items
<i>Perceived Similarity</i> (Dahl, Fuchs & Schreier, 2014)	How similar do you feel that you are to the ones who took initiative to this product?  (1) I do not feel like them/I feel like them (2) There are no similarities between me and them/ There are many similarities between me and them (3) I cannot identify with them/I can identify with them
<i>Perceived Expertise</i> (Ohanian, 1990)	To what extent do you experience those who took the initiative for the product as:  (1) Non-experts/Experts (2) Inexperienced/Experienced (3) Unqualified/Qualified (4) Unknowledgeable/Knowledgeable (5) Unskillful/Skillful
<i>Perceived Empowerment</i> (Dahl, Fuchs & Schreier, 2014)	To what extent are the following statements true?  (1) I feel like part of the group that took the initiative to create No6 Mustig (2) I feel close to those who took the initiative to create No6 Mustig (3) When I think of Koppar, I feel that I could have an impact on the development of their new coffee products (4) Koppar makes me feel like I can make a difference (5) Koppar makes me feel like I have power over the company's product range (6) Koppar makes me feel like I can influence their coffee products
<i>Perceived Complexity</i> (Schreier, Fuchs & Dahl, 2012)	To what extent do you believe that "No6 Mustig" is complex to develop?  (1) Not at all complex to develop/Very complex to develop
<i>Brand Attitude</i> (Rosengren & Dahlén, 2015)	What is your overall impression of Koppar?  (1) Negative/Positive (2) Do not like/Like (3) Not advantageous/Advantageous
<i>Brand Purchase Intention</i> (Rosengren & Dahlén, 2015)	How likely are you to buy Koppar's products within the near future?  (1) Not at all likely/Very likely (2) Not at all probable/Very probable
<i>Brand Loyalty</i> 1-3: (Rosengren & Dahlén, 2015) 4: (Jacoby, & Kyner, 1973) 5: (Aaker, 1996)	To what extent do you agree with the following statements?  (1) I am engaged in this brand (2) I am willing to pay a higher price for this brand compared to other brands (3) I will buy this brand next time I buy coffee (4) I would choose this brand over other brands selling coffee (5) I would recommend Koppar to others

Appendix 5: Variables and corresponding items

## Demographics, coffee purchase, and drinking, behavior

My age is: (Write your age in numbers, e.g. 36)

I identify myself as:

- ☐ Male (1)
- ☐ Female (2)
- ☐ Other / Do not want to disclose (3)

How often do you buy coffee from the store (e.g. ground coffee, coffee beans, pods etc.)?

- ☐ At least once a week (1)
- ☐ At least once every two weeks (2)
- ☐ At least once a month (3)
- ☐ At least once every six months (4)
- ☐ More rarely / Never (5)

How often do you drink coffee?

- ☐ Daily (1)
- ☐ 4–6 times a week (2)
- ☐ 1–3 times a week (3)
- ☐ 1 time every other week (4)
- ☐ Never / More rarely (5)

*Appendix 6: Details on survey: Demographics, coffee drinking and coffee purchasing behavior*

## Facebook Usage

	Yes	No
I have regularly used Facebook in the past week (1)	<input type="radio"/>	<input type="radio"/>
I have regularly used Facebook to communicate with others in the past week (2)	<input type="radio"/>	<input type="radio"/>
I have regularly used groups on Facebook to communicate with others in the past week (3)	<input type="radio"/>	<input type="radio"/>

Appendix 7: Facebook usage question

	Yes	No
I have regularly used Facebook in the past week (1)	98.5%	1.5%
I have regularly used Facebook to communicate with others in the past week (2)	95.5%	4.5%
I have regularly used groups on Facebook to communicate with others in the past week (3)	58.6%	41.4%

Appendix 8: Results from Facebook usage question

## Attention Test

It is incredibly important for our study that you as a respondent pay attention to each question. Therefore, the following question is completely unrelated to the study and is intended to measure your attention.

	1	9	4	7	3	8	6
Fill in the number 3.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Appendix 9: Attention test question



## Details on Data Analysis

### Indexes: Items and Cronbach's Alpha

Index	Items	Cronbach's Alpha
<i>Perceived Similarity</i>	How similar do you feel that you are to the ones who took initiative to this product? (1) I do not feel like them/I feel like them (2) There are no similarities between me and them/ There are many similarities between me and them (3) I cannot identify with them/I can identify with them	0.857
<i>Perceived Expertise</i>	To what extent do you experience those who took the initiative for the product as: (1) Non-experts/Experts (2) Inexperienced/Experienced (3) Unqualified/Qualified (4) Unknowledgeable/Knowledgeable (5) Unskillful/Skillful	0.871
<i>Perceived Empowerment</i>	To what extent are the following statements true? (1) I feel like part of the group that took the initiative to create No6 Mustig (2) I feel close to those who took the initiative to create No6 Mustig (3) When I think of Koppar, I feel that I could have an impact on the development of their new coffee products (4) Koppar makes me feel like I can make a difference (5) Koppar makes me feel like I have power over the company's product range (6) Koppar makes me feel like I can influence their coffee products	0.910
<i>Brand Attitude</i>	What is your overall impression of Koppar? (1) Negative/Positive (2) Do not like/Like (3) Not advantageous/Advantageous	0.914
<i>Brand Purchase Intention</i>	How likely are you to buy Koppar's products within the near future? (1) Not at all likely/Very likely (2) Not at all probable/Very probable	0.973
<i>Brand Loyalty</i>	To what extent do you agree with the following statements? (1) I am engaged in this brand (2) I am willing to pay a higher price for this brand compared to other brands (3) I will buy this brand next time I buy coffee (4) I would choose this brand over other brands selling coffee (5) I would recommend Koppar to others	0.872

Appendix 10: Indexes, items and Cronbach's Alpha